Volume XXXVI.
Number 3.

DECEMBER, 1908.

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$3.00 with Directory.

TEXTILE WORLD RECORD

Special Features

The Hearings on the Textile Tariff Schedules.

The Annual Report of New Mill Construction for 1908.

More Facts about the Khaki Contracts.

The Cost of Worsted Dress Goods in Bradford, England.

The Knit Goods Situation.

LORD & NAGLE COMPANY BOSTON, MASS.

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The Textile-Finishing Machinery Co.

HOWARD BUILDING

STAIRWAYS, 83 EXCHANGE PLACE [ENTRANCES] ELEVATOR, 171 WESTMINSTER ST.

PROVIDENCE, R. I.

Singeing Machines,

Boiling Kiers,

Washers, Squeezers,

Chemic and Sour

Rusden Patent

Continuous Chainless

Steamer,

Aniline Agers,

Dyeing Machines,

Open Soapers,

Blanket Washers,

Color Kettles,

Horizontal or Vertical Drying Machines, with Copper or Tinned Iron Cylinders,

Automatic Tentering Machines,

Water and Starch Mangles,

Dampening Machines,

Dyeing Machines for Chain Warps.

BUILDERS OF ALL KINDS OF

MACHINERY

FOR

BLEACHING
DYEING
DRYING

AND

FINISHING

Calenders for Rolling Glazing, Chasing and Embossing, also Calenders for Moire Finish.

Sole Manufacturers of Patented Flexible Cloth Expander for Cylinder Drying Machines, Calenders, Mangles, &c.

Patent Combination Rolls Made of Cotton and Husk, especially adapted for Soft Finish, Unequalled for Elasticity and Durability.

Cotton, Paper, Husk, Chilled Iron, Brass and Rubber Rolls, Electro-deposited Copper Rolls for all Purposes.

Padding and Drying Machines for Shade Cloths.

Single and Double Cylinder Engines.

Hydraulic Presses and Pumps.

Mercerizing Machinery for Piece Goods and Yarn in the Warp or Chain

ALL KINDS OF OUTFITS FOR BLEACHING THREAD AND SOFT TWISTED YARN.
BLEACHING MACHINERY FOR YARNS IN THE WARP OR CHAIN.

Estimates, Drawings and full particulars of complete plants furnished on application

Southern Agent, STUART W. CRAMER, Charlotte, N. C., Equitable Building, Atlanta, Ga.

H. W. BUTTERWORTH & SONS CO.

PHILADELPHIA, PA.

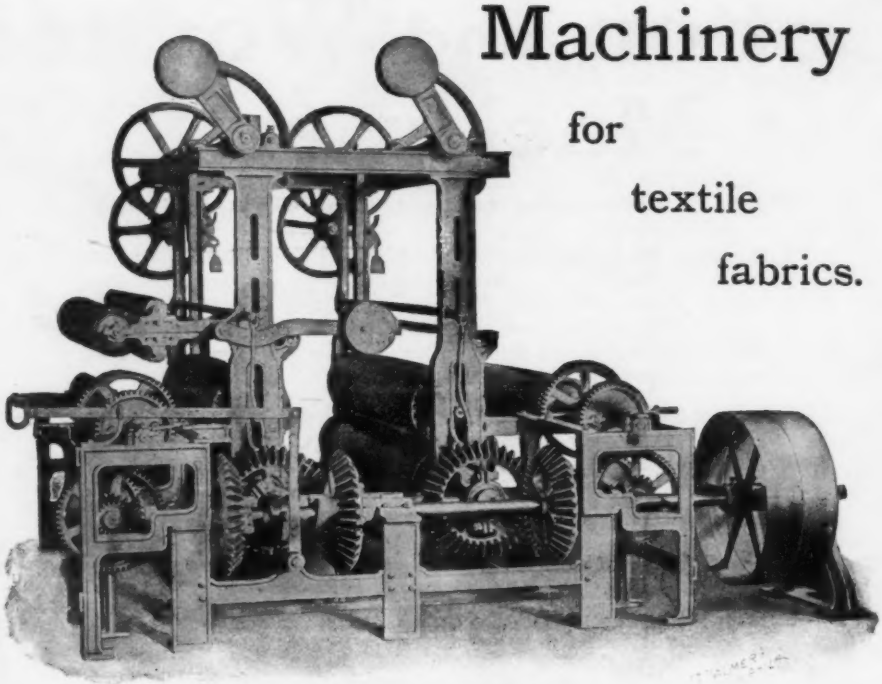
Providence Office,
Room 417, Industrial Trust Bldg.

Bleaching,
Dyeing,
Drying,
Finishing,
Machinery

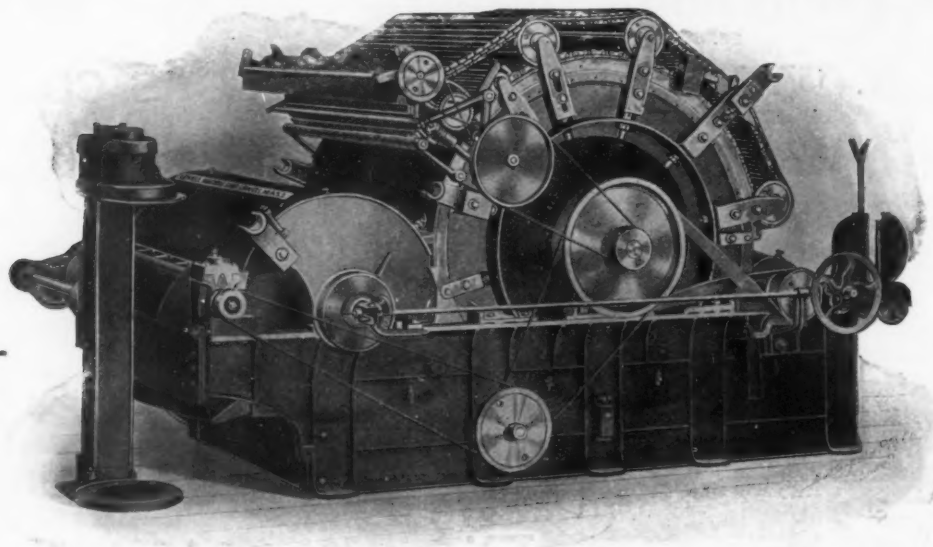
for

textile

fabrics.



DOUBLE CRABBING MACHINE.



Cotton and Worsted Machinery

With Modifications to Suit Any Class of Work.

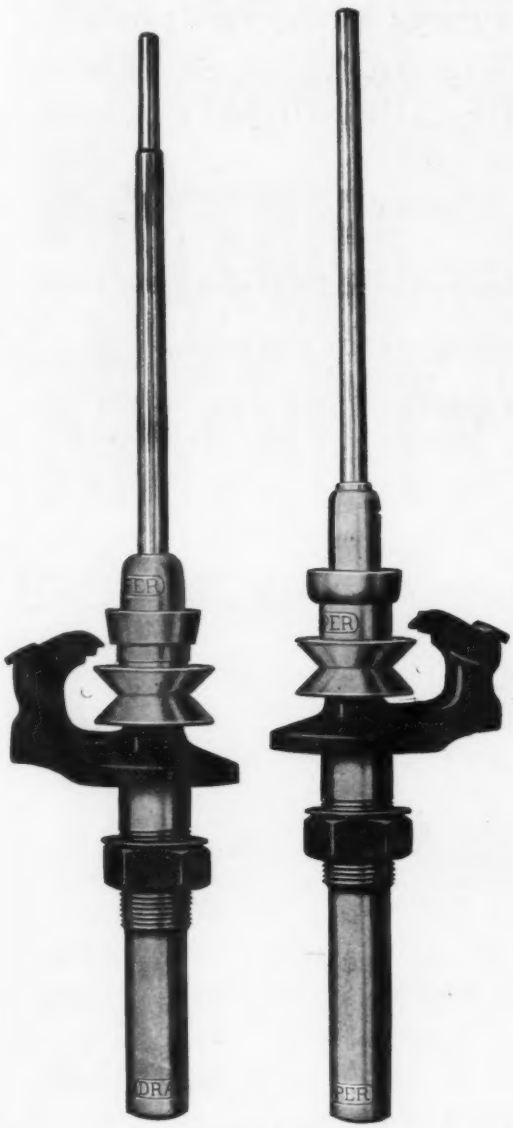
Cotton Machinery: Cards, Railway Heads, Drawing Frames, Fly Frames, Speeders, Ring Spinning Frames, Twisters, Spoolers, Reels, Warpers, Slashers, Winders, Looms, Shearing Machines, Balling Machines, Folders, Stamping Machines, Sewing Machines, Size Pumps, Size Kettles, Drawing-in Frames, Baling Presses, Indigo Grinders.

Worsted Machinery: Spinning Frames with caps, rings or flyers, Dandy Rovers and Reducers, Cone Second Finishers, Reducers and Rovers, Gill Boxes for Drawing, Preparing and Finishing, Weigh Boxes and Drawing Boxes, Cap Trap, Flyer and Ring Twisters.

Plans, Specifications and Estimates furnished upon application.

Lowell Machine Shop

LOWELL, MASS.



Two New
Large Size
Spinning Spindles.

We make

Draper,
Whitin,
McMullan

and other
types of

Spindles;

also

Northrop Looms,

Twisters,
Warpers,
Spoolers,
Reels,

Banding Machines,

etc., etc.

Draper Company,
HOPEDALE,
MASS.

THE EMPHATIC SUCCESS OF OUR "IDEAL" AUTOMATIC LOOM IS DUE TO SEVERAL SALIENT POINTS OF SUPERIORITY OVER ALL COMPETITORS:

1st. The ease and smoothness with which they start up.

2d. The acknowledged superiority of the cloth woven.

3d. Simple and thoroughly mechanical construction, assuring freedom from the constant breakage and expensive repairs attending other automatic looms.

4th. No special bobbins, shuttles or other expensive parts.

5th. Ability to use cop or bobbin filling interchangeably.

6th. Superiority of warp stop motion which does not break or fray the softest yarn.

7th. Of the thousands in operation not a single bobbin or crank shaft broken.

IN PROOF OF CLAIMS WE POINT TO THOSE MILLS FORMERLY USING OUR COMPETITORS' LOOMS THAT ARE NOW USING OURS.

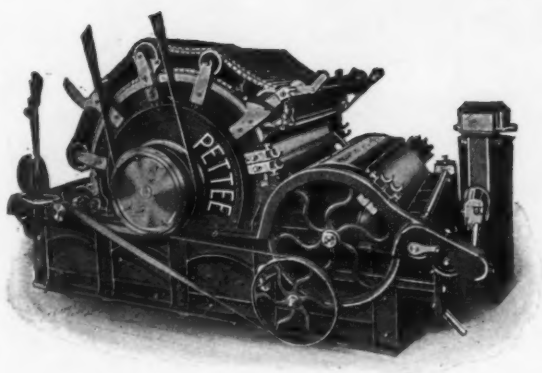
The Stafford Company

Readville, Mass.

Saco and Pettee Machine Shops

NEWTON UPPER FALLS, MASS., U. S. A.

COTTON MACHINERY



Revolving
Flat Cards,
Drawing
Frames,
Railway Heads,
Slubbing,
Intermediate
and
Roving
Frames,
Spinning Frames,
Spoolers
and
Reels.

Shops—

Biddeford, Me.

Newton Upper Falls, Mass.

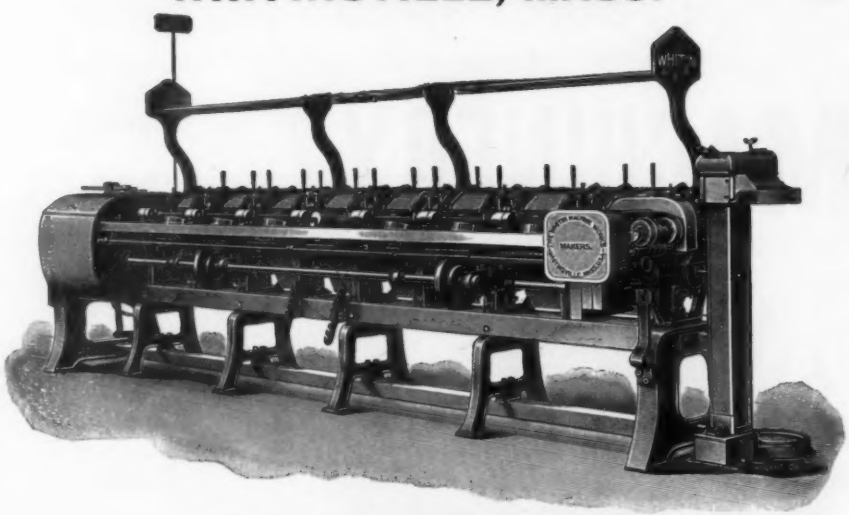
Southern Agent, A. H. WASHBURN, Charlotte, N. C.

THE

WHITIN MACHINE WORKS,

Cotton Machinery

WHITINSVILLE, MASS.



HIGH SPEED COMBER 1906 MODEL.

Revolving Flat Carding Engines,
Sliver Lap Machines,
Ribbon Lap Machines, Combers,
Railway Heads, Drawing Frames,
Spinning Frames, Spoolers, Twisters,
Long Chain Quilling Machines, Reels, Looms.

Southern Agent,
S. W. CRAMER

Trust Building, CHARLOTTE, N. C.
Equitable Building, ATLANTA, GA.

"Kitson Products"

Blowing Systems

For Conveying Bale Cotton
from Storehouse to Picker-room

Self-Feeding Openers
Lappers and
Cleaning Trunks

Waste-Working Machinery

Raw Stock Cotton Dryers

We own the Patterns and can furnish REPAIR PARTS for PICKERS
formerly built by

WHITEHEAD & ATHERTON, . Lowell, Mass.
ATHERTON MACHINE CO., - - Lowell, Mass.
A. T. ATHERTON MACHINE CO., Pawtucket, R. I.

Kitson Machine Shop

Lowell, Mass.

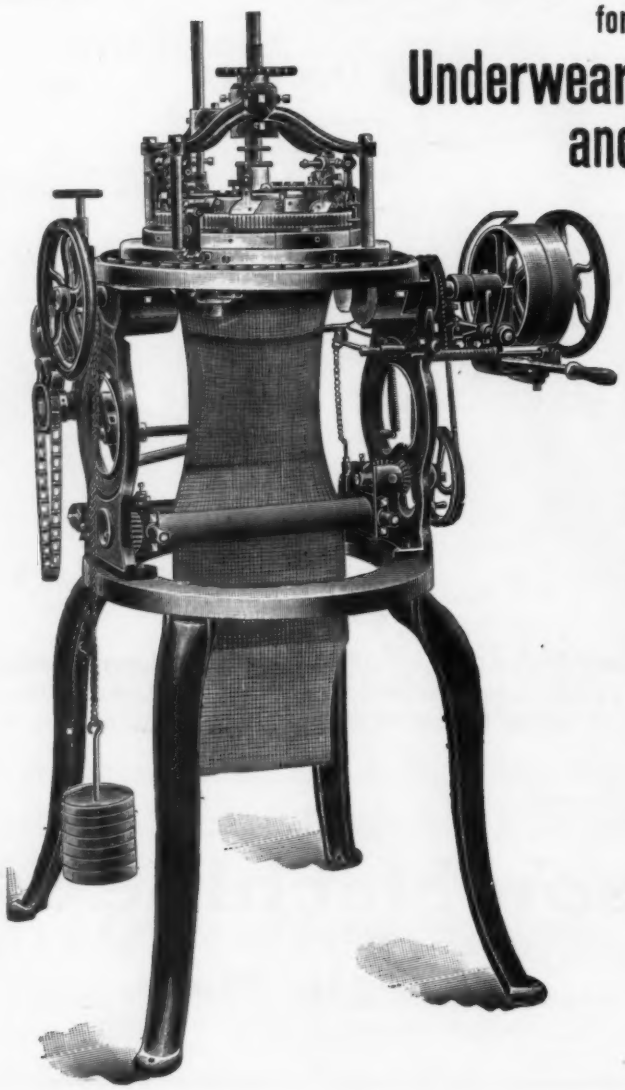
SCOTT & WILLIAMS

2079 E. Cumberland Street, Philadelphia, Pa., U. S. A.

BUILDERS OF

Full Particulars, Samples and Special Catalogues on Application.

Rib Knitting Machinery for Underwear and Hosiery



Plain, Single Lever or with Welt, Slack Course and Automatic Slackening Device for Welt.

Improved Measuring Device, by actual length knit.

Sizes 8 to 24 inches, inclusive, varying by one inch.

Number of Feeds, 4 to 12, according to style and diameter of machine.

Solid Forged Steel Cylinders, specially hardened or with patent inserted walls for fine fabric.

Special Machinery for Sweaters, etc.

We build Loopers, Ribbers and other Machinery for Knitting Mills

As well as

A Complete Line of Full Automatic and 7-8 Automatic Seamless Hosiery Machinery.

The illustration shows our

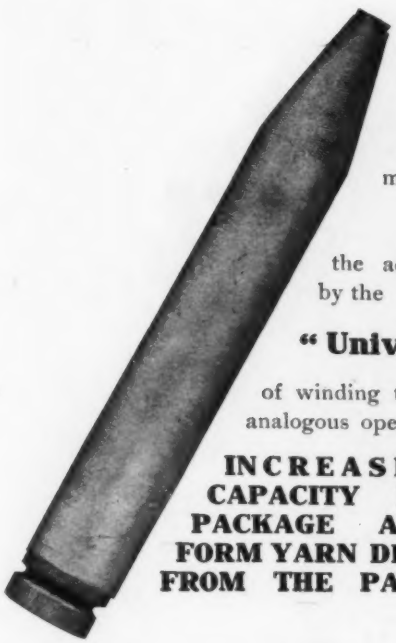
Improved High Speed Single Lever Automatic Ribbed Underwear Machine

for making ladies' and gents' ribbed underwear, union suits, etc., plain and shaped.

UNIVERSAL WINDING MACHINES

For Coning, Tubing, Doubling, Multiple Winding and Quilling

Are the most economical.
They give a maximum production
in a minimum of floor space.



The No. 90 Bobbin Winder

makes available

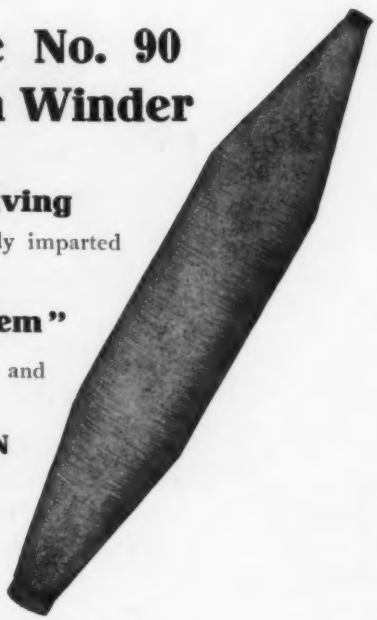
For Weaving

the advantage already imparted by the

"Universal System"

of winding to other textile and analogous operations, viz:

INCREASED YARN CAPACITY FOR THE PACKAGE AND UNIFORM YARN DELIVERY FROM THE PACKAGE.



Fully protected by patents.

Universal Winding Co.

95 South Street, Boston, Mass., U. S. A.

International Winding Company

Saville Street, Oxford Road, Manchester, England

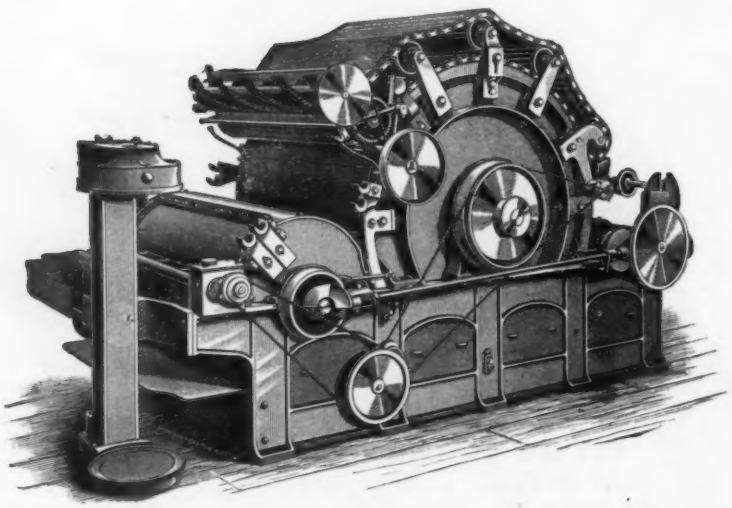
16 St. Johannvorstadt, Basel, Switzerland

Cotton Machinery

MASON MACHINE WORKS,

TAUNTON, MASS.

Southern Office,
Charlotte,
N. C.



Cards,
Combers, Railway
Heads, Drawing Frames
Spinning Frames, Mules and Looms

INCLUDING

Plain and Fancy Silk Looms

EVAN ARTHUR LEIGH

232 Summer Street (opposite the South Station), Boston, Mass.

SOLE AGENT

IN THE UNITED STATES AND CANADA FOR

Platt Bros. & Co., Ltd.

BY FAR THE LARGEST MAKERS IN THE WORLD OF

Cotton, Woolen and Worsted Machinery

Platt's Patent Opening and Picking Machinery.
Platt's Cotton Comber will comb from 7-8" stock to Sea Islands.
Platt's Special Machinery for Making Cotton Waste into Yarns.
Platt's Special Machinery for Making French Worsted Yarns.
Platt's Woolen and Worsted Carding Engines, Special Designs.
Platt's Cotton, Cotton Waste, Woolen and Worsted Mules.

MATHER & PLATT, LTD.

Dyeing and Finishing Machinery.
Archbutt-Deeley System for purifying and softening water.

TEXTILE MACHINERY ASSOCIATION, LTD.

Flax, Hemp and Jute Machinery.

GEORGE HODGSON, LTD.

Looms for Worsteds, etc.

THE PATENT AUTOMATIC FEEDING MACH. CO., LTD.

Patent Feeding Machines for wool, cotton, flax, fur and fibrous material.

JOSEPH SYKES BROS.,
Card Clothing for Cotton.

JAMES CRITCHLEY & SON'S,
Card Clothing for Woolen and Worsted.

DRONSFIELD BROS'.

Grinding Machinery and Emery Filleting. The Best French and English Combing and Rubbing Aprons. Harding's Pins and Circles. Varey's Fallers, etc.

IMPORTANT ANNOUNCEMENT

Manufacturers are hereby warned against using infringements upon the Cramer patents for

Automatic Regulators for Humidifying Systems

Before considering the purchase of infringing devices, make sure that the vendor is amply financially responsible and guarantees to imdemnify the purchaser against loss by damage suits, for both infringers and users of infringements, however crude such infringements may be, will be prosecuted to the full extent of the law.

Don't be imposed upon by misleading terms and claims as to what the vendor's patents cover; anyone can get a patent for almost anything in the way of specific constructions; the vital question is whether or not such patents infringe other prior patents.

Cramer System of Air Conditioning

Spray Humidifiers as good as the best, of large capacity, durable, sanitary, air cleansing and efficient.

Air Conditioners *comprising all the good points of spray humidifiers*, particularly as to large moistening capacity and simplicity; *combined with the good points of evaporation types of humidifiers*, such as complete evaporation of the moisture, large air cleansing capacity and good distribution; *and without the objectionable features of either type*, such as wetting down, localized moistening, large and clumsy constructions, unsanitary conditions due to difficulty of access for cleaning and to the use of wet absorbent disease-breeding materials, and largely reduced efficiencies at all except the lowest humidities,—*features*, simplicity, durability comprising only seamless drawn sheet copper casings, a spray nozzle and a fan. The fans are either electrical driven, or mechanically driven with belts or ropes as the special requirements of each case dictate.

STUART W. CRAMER

Charlotte, N. C. **Atlanta, Ga.**

JAMES HUNTER MACHINE CO.

NORTH ADAMS, MASS., U. S. A.

Crabbing Machine. *Bulletin 70*

The Hunter CRABBING MACHINE

A COMBINATION machine permitting the Crabbing of goods by the Intermittent or Continuous process.

Two machines in one.

Either process of Crabbing may be used to the exclusion of the other, or both systems may be applied to the same piece.

This machine developes the pattern.

It imparts luster and sets the weave.

It prevents wrinkling or cockling and gives softness yet firmness to the fabric.

It makes cloudy goods impossible, brightens colors and imparts an absolutely uniform finish that can be duplicated.

For Resist Dyes it is a wonder.

It produces no seconds but goods that sell.

It is for progressive manufacturers who are only satisfied with the best.

Bulletin 70 fully describes it.

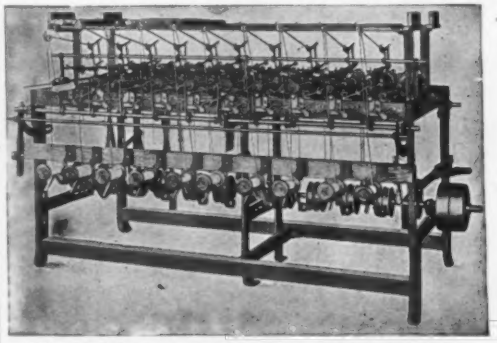
OSWALD LEVER CO.

(Formerly LEVER & GRUNDY.)

Lehigh Ave. and Mascher Sts., PHILADELPHIA, PA.

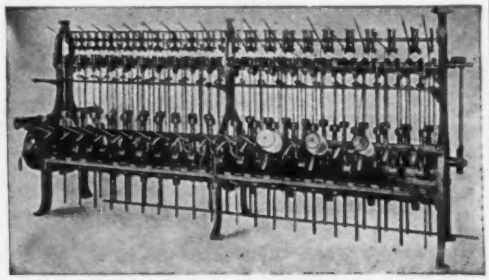
MANUFACTURERS OF TEXTILE MACHINERY.

SOLE MAKERS OF OUR PATENTED SPECIALTIES IN THE UNITED STATES.

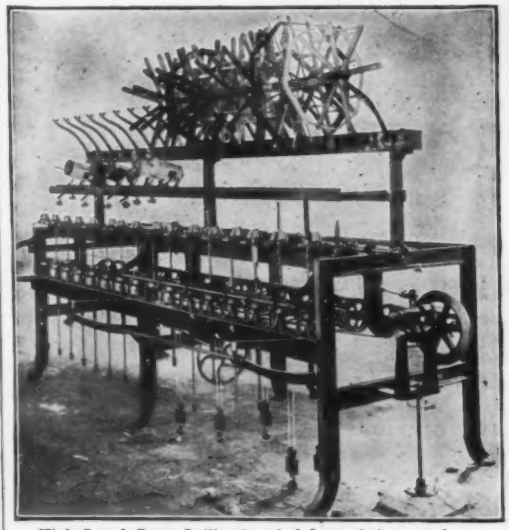


This Machine may be arranged to wind from skeins, spools, cones, or any kind of spinning bobbins. Most suitable machine for cotton or woolen blankets.

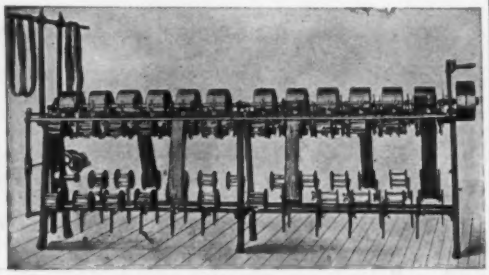
Conical and Parallel Tube Winding Machines; Warping Machines and Creels; Brass Bobbin Winding and other Machinery for lace mills; Chenille Cutting Machines, Sectional Warping Mill, Beaming Machines, etc; Cop Winding Machines for butts to weave from outside; Filling Bobbin or Quill Winding Machines; Vertical Spindle Spooling Machine for silk, fine cotton, wool and worsted; Variable Speed Bobbin Machines for large bobbins used in knitting mills; Dresser Spooling Machines; Reeling Machines.



Vertical Spindle Gear Driven Winder, as used by all manufacturers of heavy duck, jute, cotton, bagging and carpets.



High Speed Cross Quiller to wind from skeins, spools or mule cops on two quills or paper tubes. It is built to run from 1800 to 2400 revolutions.



Pressure Drum Spooling Machine. This machine is adapted for spooling any kind of yarn, whether from mule cops or skeins.

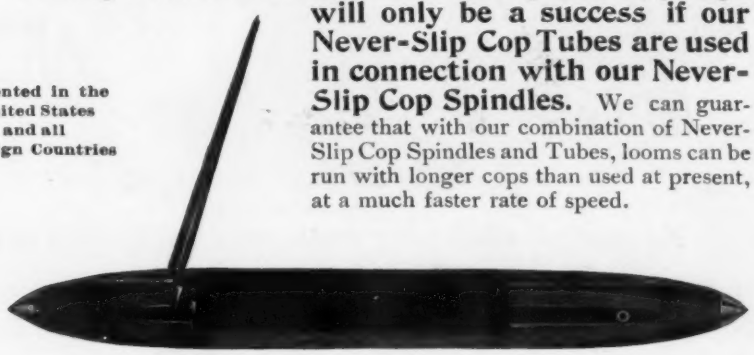
Never-Slip Cop Spindles and Tubes

Never-Slip Cop Tube

Patent applied for.

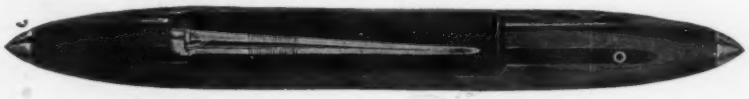
Patented in the United States and all Foreign Countries

Filling-Waste is reduced to nothing and long Cops will only be a success if our Never-Slip Cop Tubes are used in connection with our Never-Slip Cop Spindles. We can guarantee that with our combination of Never-Slip Cop Spindles and Tubes, looms can be run with longer cops than used at present, at a much faster rate of speed.



Shuttle with Spindle Raised

U. S. Patents: 778851, Jan 3, 1905; 790611, May 23, 1905; other patents pending



Shuttle with Spindle Lowered

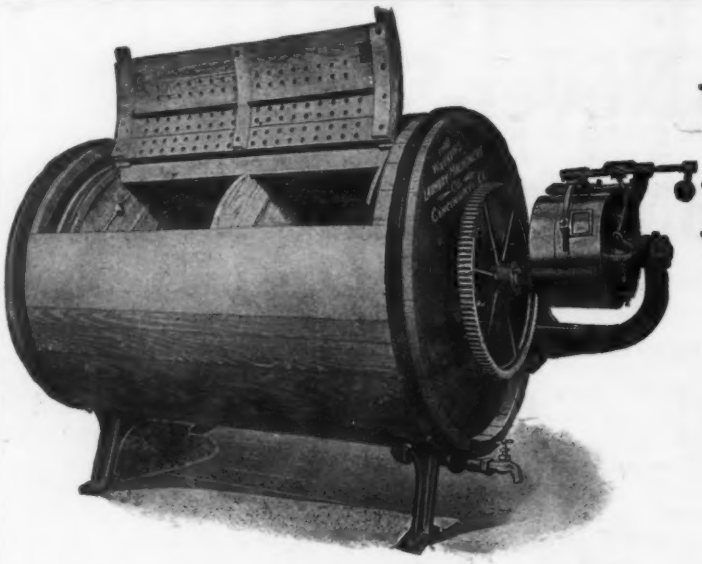
U. S. Patents: 778851, Jan. 3, 1905; 790611, May 23, 1905; other patents pending

American Textile Specialty Machinery Co.

MANUFACTURERS OF

Shuttles and Shuttle Irons for all Textile Purposes.

New York Office, 363-373 Rider Ave. 670 Eddy St., Providence, R. I.



Washing Machines

for

Textile and Hosiery Mills

all styles and sizes.

No matter what your needs may be, we can supply you from our line.
Address our nearest office.

Hydro Extractors

all styles

Under-Driven Extractors

Over-Driven Extractors

Motor-Driven Extractors

The American Laundry Machinery Mfg Co

Western Division	Eastern Division	Southern Division
78-80 Franklin St.	132-138 W. 27th St.	Station H
Chicago	New York	Cincinnati

SINGE HOSIERY WITHOUT BOARDS

BY USING THE

"HURRICANE" SINGEING MACHINE

(Patented and Patents Pending.)

The OLD and NEW Methods Contrasted

Labor — By using our latest improved Singeing Machine, the amount of labor is usually *less than one half* that required in connection with the older style singeing machines.

Boards — We do not use any singeing boards, hence this expense is entirely eliminated.

Gas — The Burners have been so perfected that we need only about half the amount of gas heretofore required.

Automatic Stripper — Absolutely positive,—with no danger of injuring the stockings or making seconds.

Floor Space — Less than half that required for any singeing machine of the same capacity built heretofore.

YOU cannot afford to do without it if you have any competition.

The Philadelphia Drying Machinery Company

"Hurricane" Dyeing, Drying and Finishing Machinery

Power Screw and Hydraulic Presses

6721 Germantown Ave., Philadelphia, Pa.

FACTORY FIRES COST MONEY

not only in the loss of the building and the stock, both of which can be insured, but by

From "Reinforced Concrete in Factory Construction."

A LOSS OF TRADE

which cannot be covered by fire insurance. *100% of the disastrous fires* totally destroying buildings and stock which occur yearly *could be averted* by a CONCRETE BUILDING built with "ATLAS" Portland Cement.

Every factory owner is guilty of Gross Negligence unless he gives this type of construction careful consideration when planning a new building.

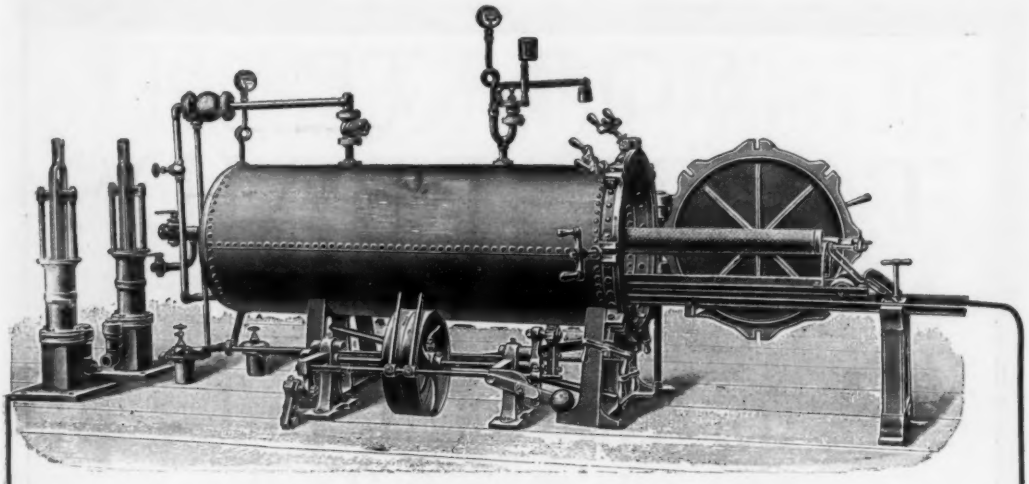
Our book—for the Manufacturer and Merchant—"Reinforced Concrete in Factory Construction," contains numerous illustrations and descriptions of Concrete Factories. Send for it at once—free upon request—postage **10** cents.

THE ATLAS PORTLAND CEMENT CO. PORTLAND ATLAS CEMENT 30 BROAD ST. NEW YORK

NONE JUST AS GOOD.

The Atlas Portland Cement Co.

Dept. 41. 30 Broad St., New York



Paul Klug Decating Apparatus

For Worsteds, Broadcloth, Etc.

BY WHICH

Permanence of lustre and finish are obtained
London shrinking is abolished
Cockling difficulties are overcome and
Former steaming and sponging methods
Are done away with.

L. H. A. Schwartz & Co., 53 State Street Boston

ALSO SOLE AGENTS FOR

J. H. RILEY & CO.
Bury, England
Machinery for Bleachers, Dyers, Calico Printers and Finishers.

C. G. HAUBOLD, JR.
Chemnitz, Germany
Specialties in the Finishing line.

ERCKENS & BRIX
Rheydt Germany
Dyeing and Bleaching Apparatus for Cheeses, Cross Spools, Slubber Bobbins, etc., many running in this country in Cotton and Woolen Mills.

G. ANTON SEELEMANN & SOHNE
Neustadt, Orla, Germany
Patent Curved Carding and Napping Wire.

U. PORNITZ & CO.
Chemnitz, Germany
Apparatus for Dyeing and Bleaching in Cross Spool, Cops, upon Warpbeam and in the Card Silver.

RUDOLPH & KUHNE
Fr. Gebauer, Prop. Berlin, Germany
Finishing Machinery.

TAPES, BRAIDS AND RIBBONS

for the Mill and Manufacturing Trade

WICK NARROW FABRIC CO.
PRODUCERS OF SPECIALTIES
726-728 Market Street, Philadelphia
Address Department Z

STARCH.

Increased efficiency in

WARP SIZING

with LESS COST by using

Adhesive Value:

One pound of "C. P. SPECIAL" contains a sizing value of from one to one and a half pounds of any other starch.

"C. P. SPECIAL" requires no heavying or stocking up after standing.

Sizing Qualities:

"C. P. SPECIAL" dries without sticking on slasher cylinders.

"C. P. SPECIAL" penetrates yarn thoroughly.

"C. P. SPECIAL" increases tensile strength of yarn from 5–10 percent.

"C. P. SPECIAL" boils quickly and produces good, smooth size.

Weaving:

Warps sized with "C. P. SPECIAL" draw in and weave to entire satisfaction.

"C. P. SPECIAL" will not dust off under your looms.

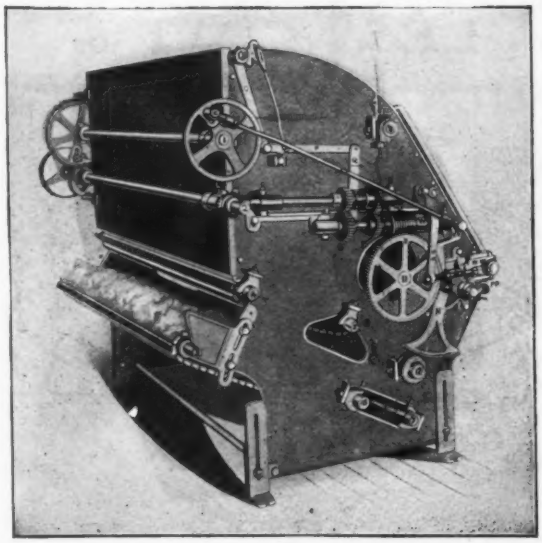
Demonstration:

We are ready to demonstrate in your mill—free of cost—just what "C. P. SPECIAL" will do.

100 lbs. "C. P. SPECIAL" will be sent on request to any responsible Cotton Manufacturer for demonstration purposes.

Corn Products Refining Co., New York, N. Y.

THE FISHER PATENT CARD FEED



Write Us For List of Mills Where Machines Are Used.

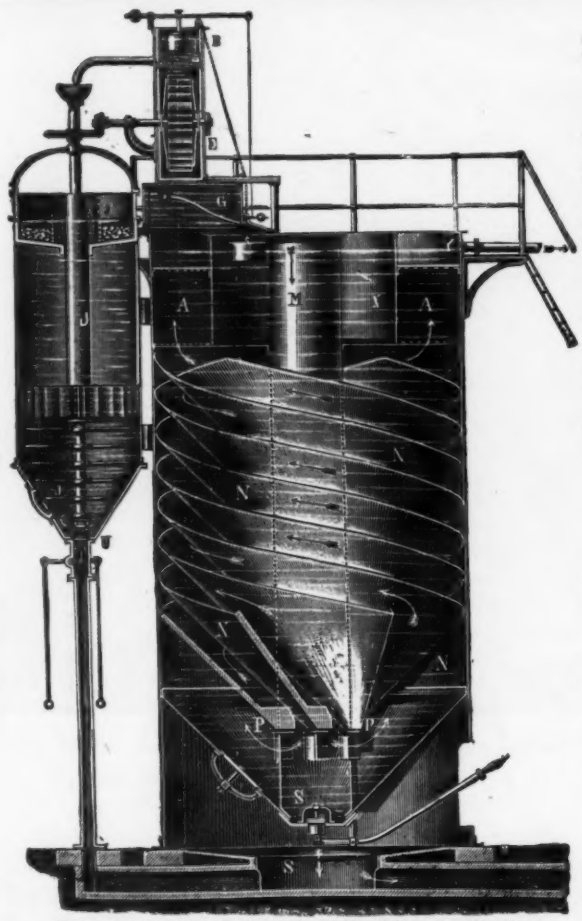
Woonsocket Machine and Press Company

WOONSOCKET, R. I.

Soften and Purify the Water BEFORE It Goes Into Your Washers and Tubs

Then there will be no soap curds or other impurities to adhere to the fibre and cause

Trouble in Dyeing and Bleaching



"Eureka" Water Softener and Purifier, Continuous—Automatic. Weight of Incoming Raw Water Supplies All Necessary Motive Power.

or any of the other processes. You not only obtain

Uniformity of Product

by having an evenly soft, pure water, but the saving in soap, scouring liquor, chemicals and dyestuffs quickly pays for the

Machine That Makes Hard Water Soft.

Organic matter, iron compounds, dissolved and suspended impurities, can be removed at slight cost for the reagent materials.

Water From Private Wells

can usually be pumped, softened and purified at a small fraction of the sum paid for the city supply, and a substantial saving made in that department.

As the treated water is non-incrusting, it will *prevent* scale from forming on the boilers, thereby eliminating the use of expensive compounds, also cleaning and repair expense due to scale, and by keeping this non-conductor of heat *out* of the boilers the fuel consumption is greatly reduced.

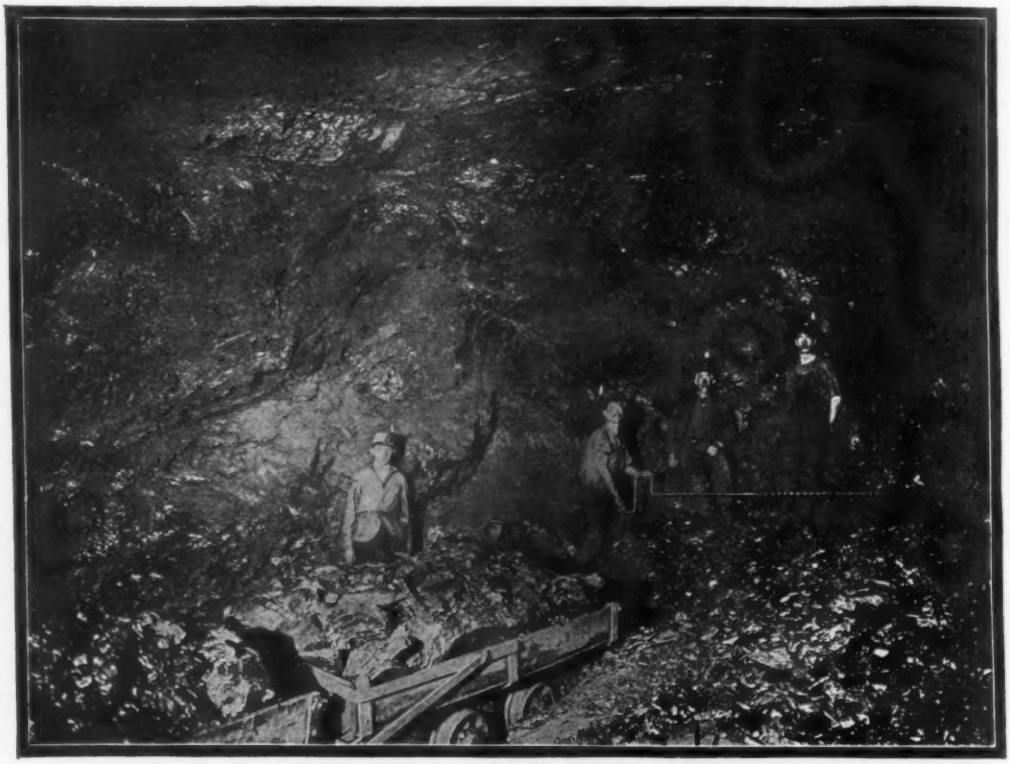
Interesting literature will be furnished upon application to

Dodge Manufacturing Co., Mishawaka, Ind.

Dept. R.

Average selling price about $2.00 per ton

A clear profit of over $1.00 per ton for every ton mined. Photograph shows thickness of vein, ease of working, and excellent quality.



"Battle Creek" seam of coal which underlays 7000 acres of coal land in Tennessee owned by this Company.

The Cross Creek 6% Gold Bonds carry with them a bonus of preferred stock, giving a good income return on the bonds and probable very handsome profit on the stock.

Write for particulars.

Cross Creek Coal Company,

1006 Mutual Life Bldg., Buffalo, N. Y.

Cross Creek 6% First Mortgage Sinking Fund Gold Bonds

This bond issue (**$250,000**) is a first lien on **7000** acres of coal lands and all improvements. Every ton of coal mined pays into the sinking fund **10c,** so that each year a certain portion of the indebtedness is paid off. The interest, payable semi-annually, at the office of the Hamilton Trust and Sav. Bank, Chattanooga, Tennessee, is **6%**, and the preferred stock accompanying the bonds is entitled to **6%** of the earnings, ahead of the common stock.

As showing the development of the coal business in the United States, the United States Geological report shows that in 1814 the total production was **22** tons; in 1906 the tonnage was **414,157,278** tons and in 1907, **480,363,424** tons, or an increase in tonnage in one year of over **66,000,000,** or more than the total production in 1878.

Less than $50,000 of these bonds remain to be sold. Early application is suggested

Cross Creek Coal Company,

1006 Mutual Life Bldg., Buffalo, N. Y.

SMITH, DRUM & CO.

"BUILDERS OF THE BEST"

Labor Saving Machinery for Dyeing Singeing and Finishing

HOSIERY

IN SULPHUR, ANILINE, DEVELOPED BLACKS AND COLORS
POWER SCREW PRESSES and MERCERIZING MACHINES

If you wish to **SAVE LABOR** and **DYE STUFF** and do **BETTER WORK** in your dye house see

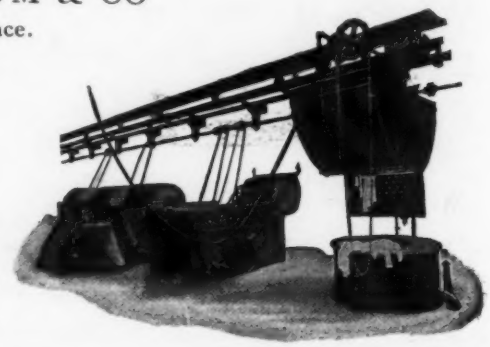
SMITH, DRUM & CO

about it at once.

Full
Particulars
on
Application

CORAL AND CUMBERLAMD STREETS

PHILA., PA.



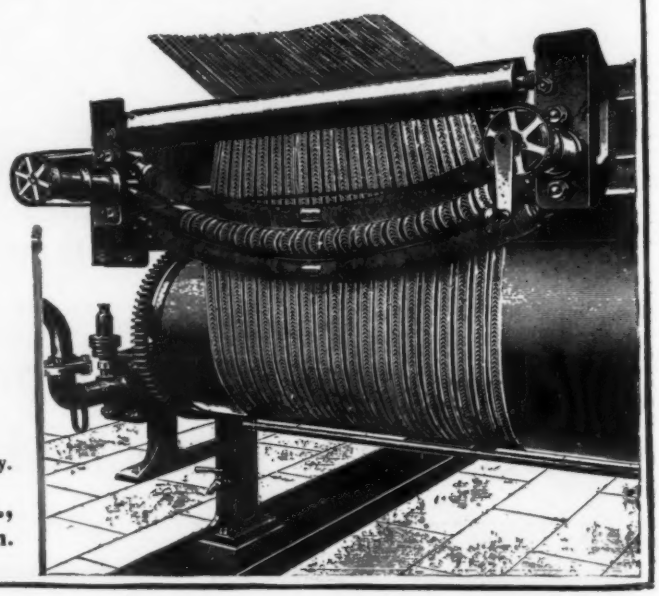
Perfectly Even Tension Both Ways

THIS ideal cloth expander gets the full width of the goods in a most satisfactory way. Can be attached to calenders or cans. Hundreds in use in Great Britain and on the Continent—hundreds more in the United States, with constant satisfaction.

Manufacturers unsolicited say to us, "You have the greatest thing in a spreader ever brought to our attention."

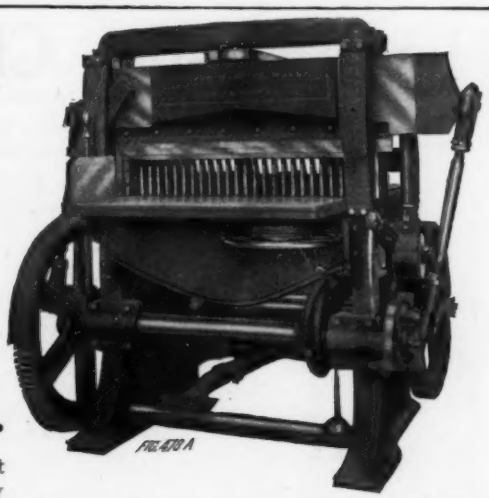
We put them in on trial.
Test it on your own work—'t will pay.

Thomas Leyland & Co.,
60 India St., - - - Boston.



Pinking Cloth and Cutting Samples on Oswego Cutting Machines

is easy, quick, economical and correct.



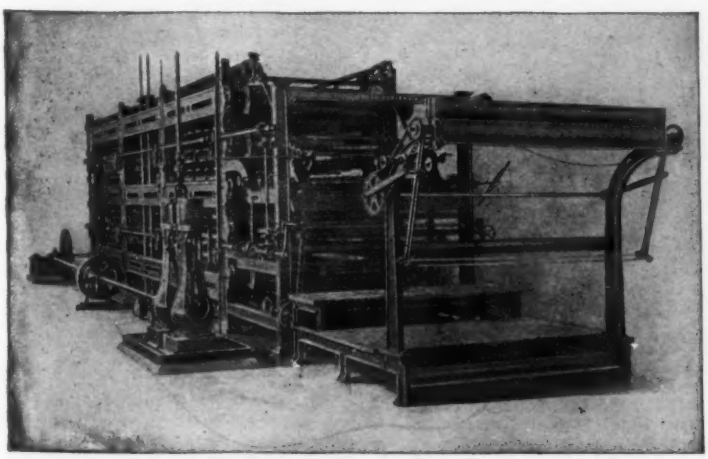
The attractive samples that can be cut on Oswego Cutters bring business. Ninety sizes and styles of Oswego and Brown & Carver Cutters are made. One of these is exactly suited to your present needs. A large number of these machines are in active operation cutting cloth.

Oswego Machine Works, **Oswego, N. Y.**

Niel Gray, Jr., Proprietor.

TENTERING AND DRYING MACHINES

WITH LOW DOWN FEED. **PATENTED FEBRUARY 26, 1895.**



Tentering and Drying Machines on Pipe System. Special Dryers for Heavy Felt Goods. Hot Air Drying and Tentering Machines.

Fulling Mills, Washers, Chinchilla and Whitney Machines, Whipping Machines, Cone Willows, Marsden & Blamire Lap Feed, Dyeing Machines for Piece Goods, Soaping Machines, Wringing Machines, Jigs (Double or Single), Dewing Machines, etc. Crabbing Machines for worsted. Made either single, double or triple.

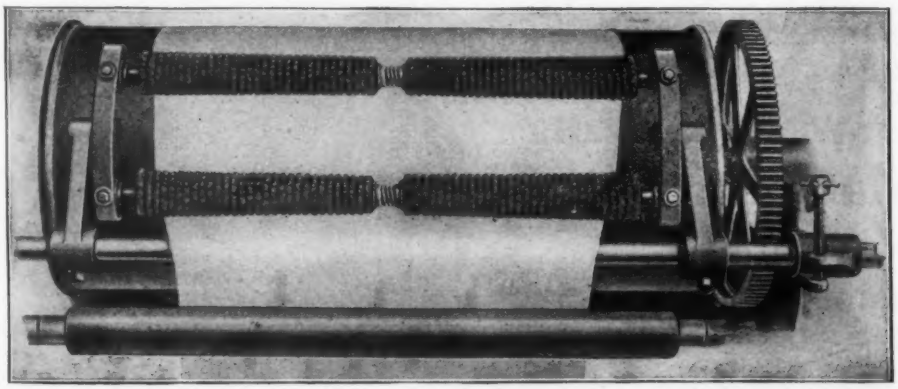
MANUFACTURED BY

D. R. KENYON & SON, Raritan, N. J. **Successors to KENYON BROS.**

Long Distance Telephone—Somerville 21.

New Bristle Cloth Stretcher

(Patented)



GETS THE FULL WIDTH OF THE GOODS

on all classes of fabrics without disturbing the finish, damaging the warp, bending the weft or distressing the fabrics in any way. Two years' regular work on all kinds of goods in leading mills and finishing establishments in this country and abroad has demonstrated its efficiency. No dirt, grease or oil, no complications in adjusting, no threading up. Made with single and double brush. Sold on approval.

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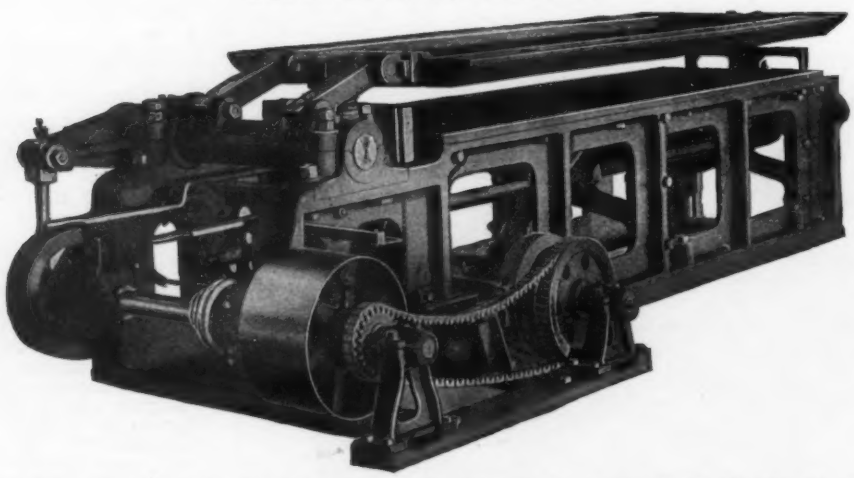

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Chilled and Soft Iron Rolls. Heavy Transmission Machinery.
Machine Molded and Machine Cut Gearing, to 20 ft. diameter, Etc., Etc.
Heavy Castings, in Gray Iron or Semi Steel.

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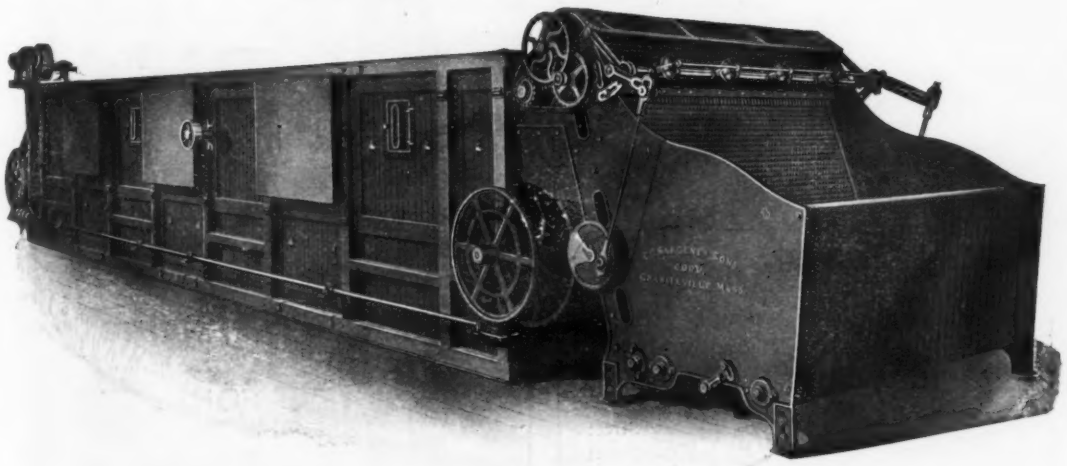

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for
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New Type P Lamps—Automatic Lighting

These Lamps are particularly adapted to the Lighting of Textile Mills.

The Quality of the Light appeals directly to the operatives—enabling them to increase both the quality and the quantity of their product and at the same time reduces the strain upon the eyes to a minimum.

The efficiency of the Cooper Hewitt Lamps appeals to the management on account of the economy in the cost for current and cost of maintenance.

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Received the HIGHEST AWARD on recommendation of the FRANKLIN INSTITUTE for

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The Only Perfect System of Air Moistening

Has Been Adopted by the Representative Manufacturers of this Country.

The only System adopted in the Textile Schools. Write for booklet "T" on Humidification. Legal proceedings will at once be taken against infringers and users of infringements.

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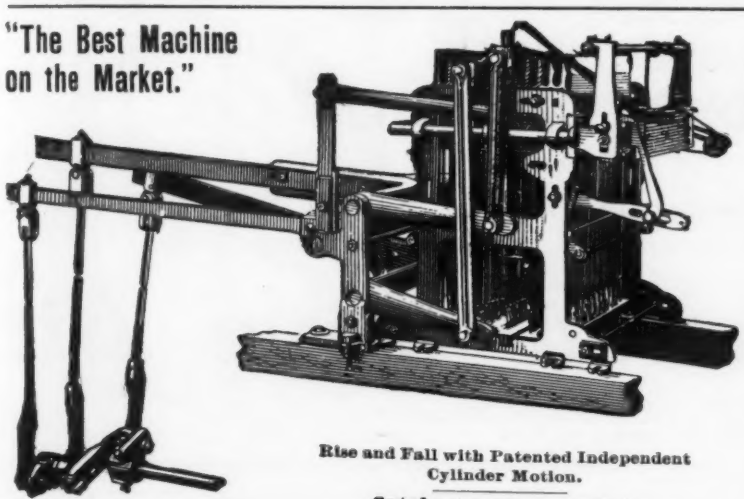

Rise and Fall with Patented Independent Cylinder Motion.

Catalogue upon request.

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Original Fine Index Machines

Single Lift, Double Lift, Double Cylinder, Rise and Fall, Crossborder,

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Crabbing, Steam Finishing, Opening and Folding, Tacking, Sewing, Squeezing Machines

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Bleaching and Napping Machinery

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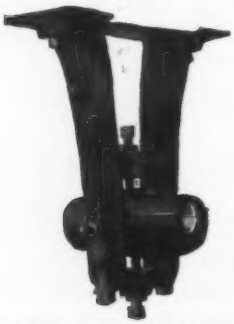

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Shafting Pulleys
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"THE NATURAL WOOL OILS"

Olive Soft Soap for Scouring **Liquid Soluble Soap**

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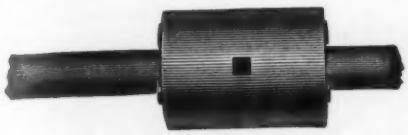

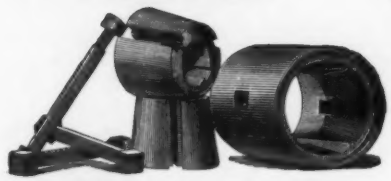

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DOUBLE CONE VISE COUPLING

has a way of holding shafts together, that no other COUPLING can equal.

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Makers of

SHAFTS,
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and all most approved appliances for the Transmission of Power.

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It is Light, STRONG, and lasts a lifetime.
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Particularly adapted to TEXTILE manufacturing.
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DIAM.—6 TO 104 IN.
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THEY ARE BUILT TO FILL ALL CONDITIONS OF SERVICE AND EXCEL IN DURABILITY AND EFFICIENCY. THEY ARE LIGHT, STRONG AND ARE PERFECTLY RIGID.

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OF EVERY DESCRIPTION FOR COTTON, WOOLEN AND WORSTED.

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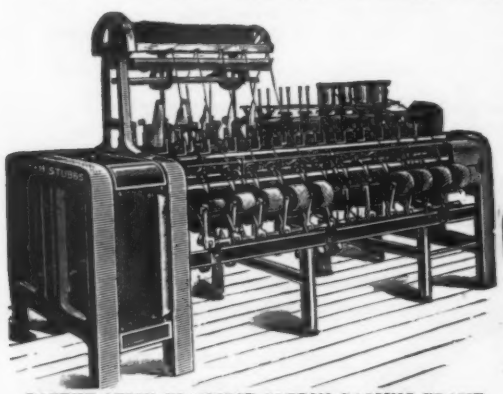
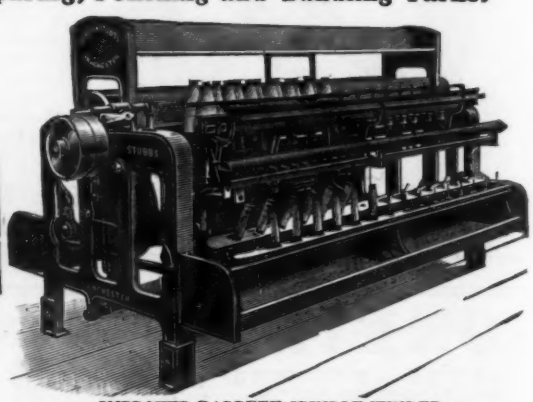
SPECIAL MACHINERY

For Winding, Gassing, Reeling, Preparing, Polishing and Bundling Yarns.



PATENT QUICK TRAVERSE COTTON GASSING FRAME.



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AMMONIATED POTASH SALTS FOR SCOURING.

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FREE SAMPLE SENT FOR TRIAL ON REQUEST.

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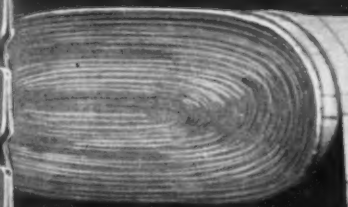
COMMUNITY "FRICTION CHAIN" FOR LOOMS



PERFECTS THE WEAVE

Insures even and uniform friction.

Not affected by dampness or dryness.

Will not stretch. Adapted to heavy or light weaving.

Will outwear cord, band or rope many times over.

Saves labor.

Easily adjusted.

Carried by all the leading supply houses.

We earnestly solicit your orders.

ONEIDA COMMUNITY, Ltd.
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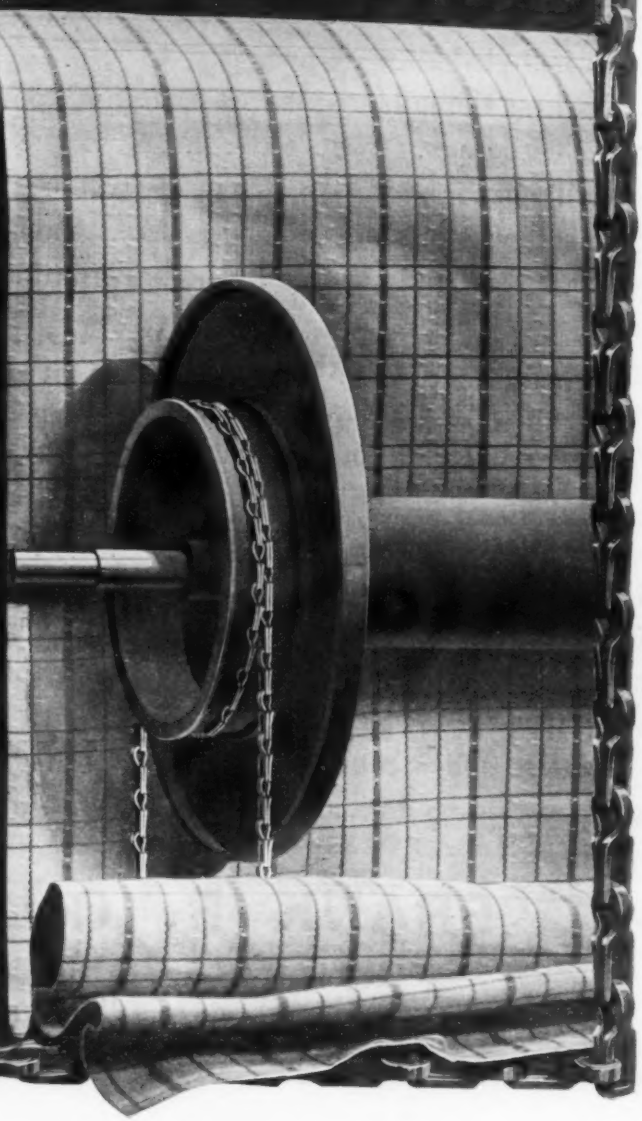

REPEAT ORDERS--THE WORK THAT WE HAVE PERFORMED FOR MR. GEORGE F. HARDY, ARCHITECT AND ENGINEER, 309 BROADWAY, NEW YORK.

The first contract that Mr. Hardy awarded to us was for the construction of a paper mill for the Magargee Paper Co., at Modena, Pa.

This was followed by a second contract—our first repeat order from him. This involved the construction of an entire town at Sprague's Falls, Maine, for the St. Croix Paper Company. The contract included all work necessary to turn a dense forest into a town and to harness the falls to furnish light and power for the factories and other buildings. The work included the construction of railways, macadamized streets, cottages, private residences, boarding houses, hotels, blocks of stores, machine shops, store houses, railway terminals, ground wood, pulp, sulphide and paper mills, a 2,000 foot concrete dam, and steam, water, and electric power plants. We completed this contract in eight months.

Our third contract—second repeat order—from Mr. Hardy was for the entire plant of the Champion Fibre Company at Canton, North Carolina. The buildings comprising this plant are over a mile long.

Contract No. 4 from Mr. Hardy—repeat order No. 3—called for the construction of the complete paper making plant of the Champion Coated Paper Co., at Hamilton, Ohio. This work included the construction of a concrete wall, over a quarter of a mile in length, along the Great Miami River.

We solicit contracts for works of magnitude where the time for construction is limited. Over 90% of our work consists of repeat orders.

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GENERAL CONTRACTOR

FOR ARCHITECTURAL AND ENGINEERING CONSTRUCTION

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The Carrier System

Heats
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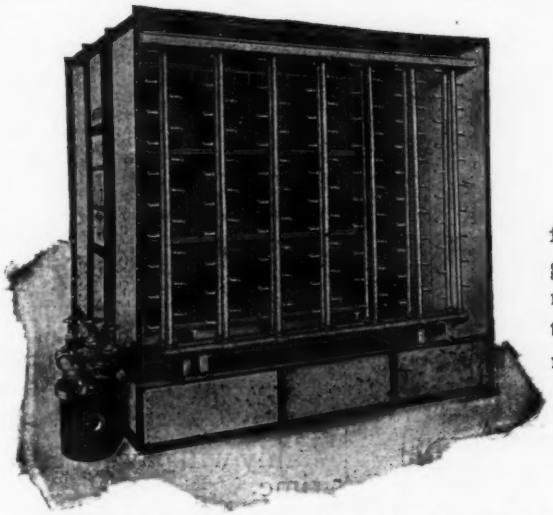
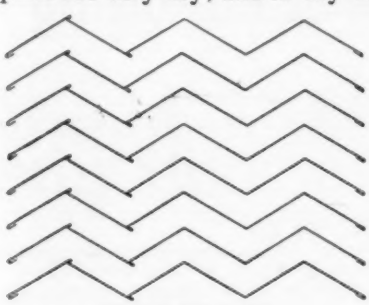


One Apparatus
for an entire mill giving different humidities desired in the different departments.

View Showing Spray Chamber with Eliminator Plates Beyond.

WITH THE CARRIER SYSTEM there can be no local conditions of humidity in one part of the room different from any other part.

No spots where the air is supersaturated by a spray, located in a room, while other parts are very dry, due to dry unconditioned air entering the room through windows, doors, etc.



ELIMINATOR PLATES

WITH THE CARRIER SYSTEM the air is PROPERLY conditioned BEFORE it enters the room, to MAINTAIN the desired temperature and humidity.

The air entering contains the proper amount of moisture but no excess or free particles of water.

Thus a uniform temperature and humidity are procured in all parts of the room.

The eliminator plates remove all free moisture thus making it possible to perfectly control the humidity automatically.

Carrier Air Conditioning Co.

39 Cortlandt St., New York.

OF AMERICA

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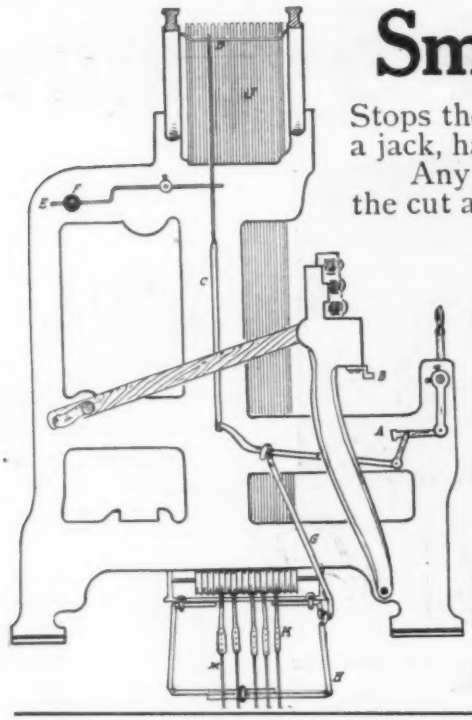

Smash Protector

Stops the looms instantly and automatically if a jack, harness wire, or strap breaks.

Any practical man can see at a glance from the cut and description its many advantages.

IT WORKS LIKE THIS

When a harness jack drops out of place it strikes the wire D, pushing down the rod, C, which raises, A, up in time to strike B, as the lathe comes forward, knocking off the lever. E is a stopping lever which enables the operator to stop the loom from the rear. F, is a weight which keeps the apparatus in position. When a harness strap, K, breaks, it lets the wire M down on the frame, H, which pulls down on arm, G, and raises A, which strikes B, and stops the loom.

At the low price of $5.00 per loom it certainly will pay for itself in a very short time.

Manufactured by

Bamford & Smith Co., Providence, R. I.

"The Chemistry AND Practice of Finishing"

BY

PERCY BEAN, F.C.S., M.Ph.S.,

Expert on Sizing, Dyeing and Finishing. (Author of "The Chemistry and Practice of Sizing.")

AND

WILLIAM McCLEARY,

Practical Demonstrator in Bleaching, Dyeing and Finishing, at the Manchester School of Technology.

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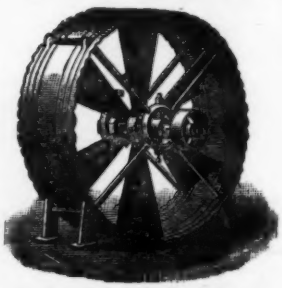

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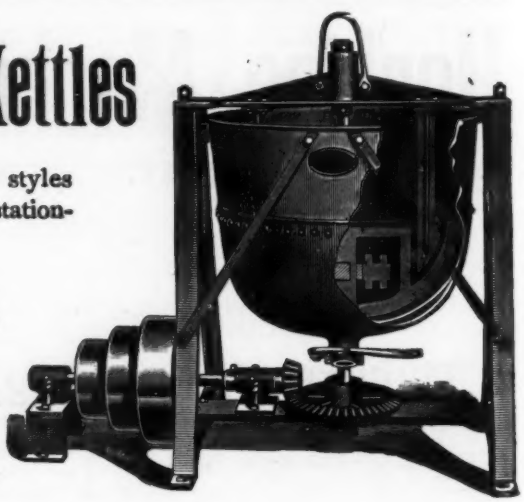

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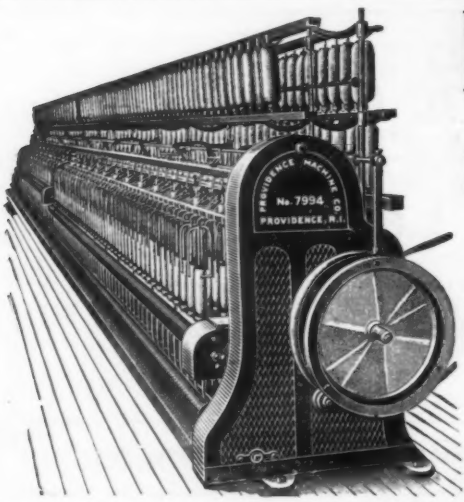

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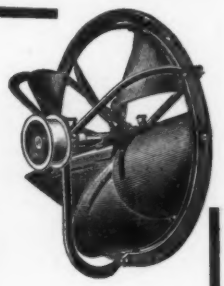

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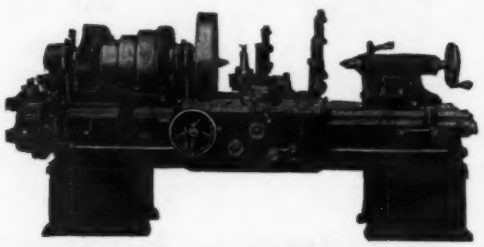

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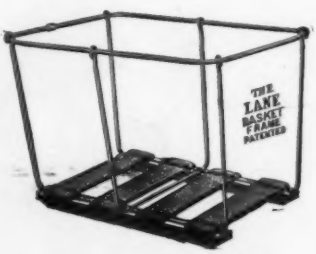

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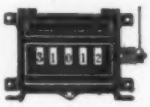

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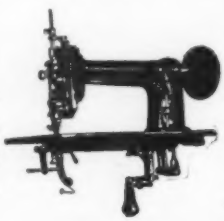

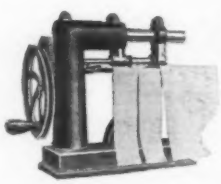

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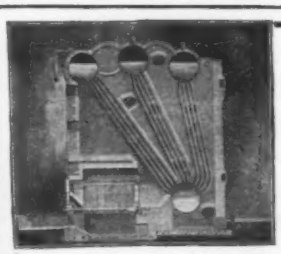

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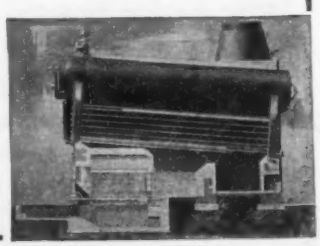

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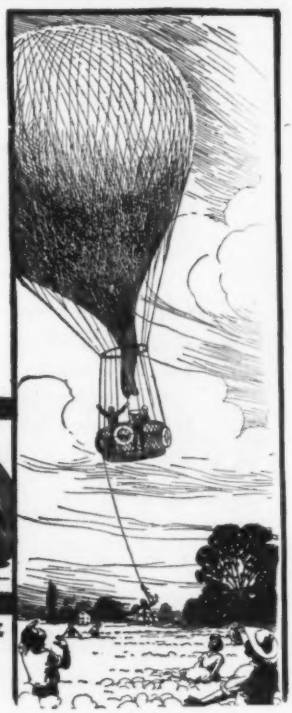

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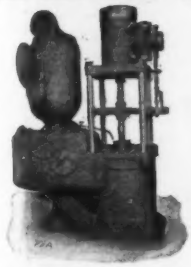

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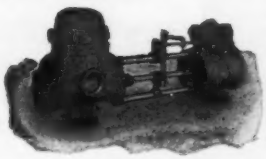

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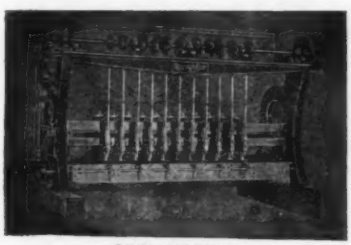

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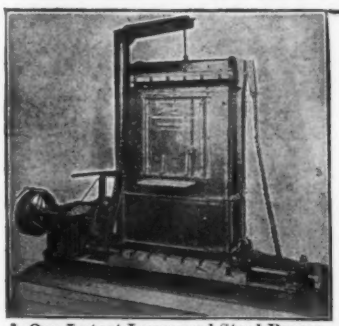

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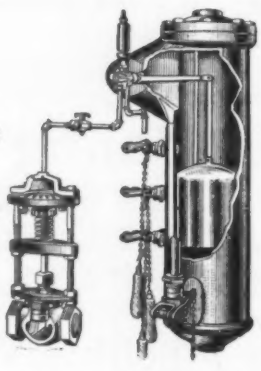

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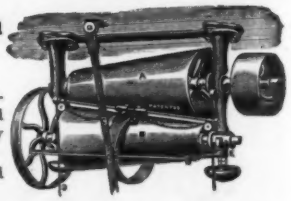
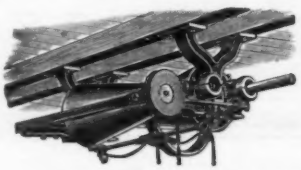
The Evans Friction Cone Pulleys



will drive your machines at any desired speed from 1 to 6 by simply pulling a cord.

They are guaranteed to do your work.



We'll furnish them for either floor or hanging use.

Over Ten Thousand Sets in Operation in this Country and Europe.

Send for Catalogue.

EVANS FRICTION CONE COMPANY

G. Frank Evans. - Newton Center, Mass.

1866 1908

HARTFORD STEAM BOILER INSPECTION AND INSURANCE CO. HARTFORD, CONN

41st Annual Statement

January 1, 1908

Capital, $1,000,000.00
Surplus, 1,006,868.06
Reserves, 2,053,326.74
Assets, 4,060,194.80

The HARTFORD was the Pioneer Company in the field of Steam Boiler Insurance, and it is the only company which makes a specialty of and does exclusively a steam boiler inspection and insurance business.

The HARTFORD is the only company whose entire talent and energies are applied to the study of steam, to the scientific construction and installation of boilers, and to their periodical inspection by expert mechanics.

The HARTFORD is the only company whose entire assets and resources are held exclusively for the protection of steam users, and the payment of losses occasioned by the explosion of steam boilers and for no other hazard whatsoever.

The HARTFORD is now doing nearly nine-tenth of the Inspection and Insurance of Steam Boilers in the New England States, and nearly two-thirds of the entire amount done throughout the United States.

L. B. Brainerd, President and Treasurer.
F. B. Allen, Vice-President.
C. S. Blake, Secretary.
L. F. Middlebrook, Assistant Secretary.

Hartford, Conn.

Hill's Improved

Tin Roving Cans

are especially adapted for use in Woolen Mills, IXXX Tin Plate body, side seam locked and grooved—made by machinery—every can alike. Special pattern top and bottom rings made of ¾ inch iron welded at joints and tinned. A wide "kicking band" beaded and soldered on the body. We can't tell all their good points here. Let us send full details.

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FRANK B. KENNEY, Manager

T. C. Entwistle Company

LOWELL, MASS.

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Traverse Wheel and Long Roll

Particular Attention Paid to Repairing Grinders of All Kinds and Makes

Southern Agent

STUART W. CRAMER, Charlotte, N. C.

The Metallic Drawing Roll Co.

INDIAN ORCHARD, MASS.

MANUFACTURERS OF

Metallic Rolls

Especially adapted for Cotton Mills. 25 to 33 per cent more Production Guaranteed. Weight Reduced 33 to 50 per cent. No Leather Covering Bill.

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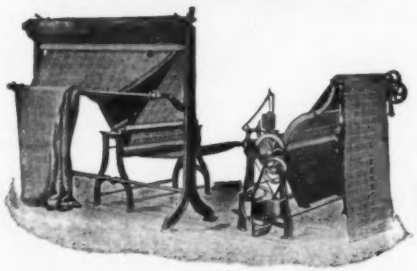
CLOTH FINISHING MACHINERY



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Curtis & Marble Mch. Co.

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BIRCH BROS.

Somerville, Mass.

"Coronation"

Piece End Sewing Machines

on American stand sent on trial most anywhere.

Send for Circular.

Bleaching, Dyeing and Finishing Machinery.

Sews any Fabric

Thick or Thin Wet or Dry Without Change Fine Stitch or Coarse Stitch

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SALEM, MASS.

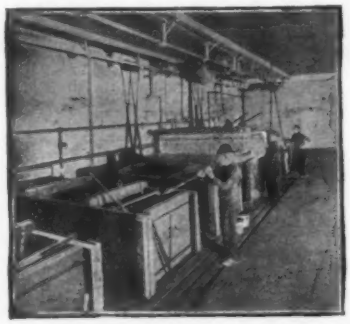
ELEVATORS

ESPECIALLY ADAPTED FOR MILL USE.

SEND FOR ILLUSTRATED CATALOGUE AND ESTIMATE.

Waters' Dyeing Machine

This cut shows a new and useful machine patented by D. F. Waters for the dyeing of any color on Worsted, Woolen, Cotton and Merino Yarns.



Being successfully operated by some of the largest manufacturers in the country.
The saving of labor will more than pay for a machine in a few months.
Capacity; 2,000 lbs. a day per man.
Machine can be seen in operation at any time at my plant where I have 13 in operation all the time.

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53 and 55 Wister St., GERMANTOWN,
PHILADELPHIA, PA.

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For PLAIN and FANCY WEAVING.
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Robert G. Pratt
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Hydro-Extractors
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for packing waste textile materials

Are built of heavier and more durable materials than any other hand presses. They last longer and do better work.

Circular 159

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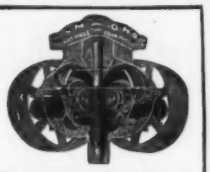
Edward Jefferson & Brother,
SOLE AGENTS FOR
The Textile Machinery Association Ltd.
Leeds, England
MAKERS OF ALL CLASSES OF
Worsted Machinery

127 South Second St., Philadelphia, Pa.

Drives at a Right Angle

without noise,
dirt or trouble.



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eliminates mule pulley stand
and bevel gear troubles.

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New York Office, 40 Murray Street

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SAGINAW MANUFACTURING COMPANY,
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New York Branch, 88 Warren St.,
Chicago Branch, 28-32 So. Canal St.
Sales Agencies in all the Principal Cities.
Cable Address: Engrave, A B C and Lieber's Codes.

In cylinders, bearings, gears and all friction points Dixon's Flake Graphite saves wear and power.

Successful engineers use it. Write for free booklet and sample—write to-day.

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Especially Adapted to
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of all Grades for Fancy Weaving. Accurately Cut to Any Size.

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Manufacturers of
MACHINE WOOL COMBS
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Worsted Machinery--new and repairs.
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Calder Machine Works
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325 Race St., Philadelphia
We manufacture
Spindles, Flyers, Caps, Tubes and Bearings.
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Spindles and Flyers of Every Description Promptly Repaired.

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Makers of Rag, Wool, Hair and Finishing Pickers, Automatic Square and Cone Willows, "Schofield" Intermediate Feed for Cards, Rag and Extract Dusters, Waste Pullers, Worsted and Shoddy Reels, All Kinds of Spike and Slat Aprons.
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Relagging Picker Cylinders a Specialty.

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U. S. Pat. 873,269

To attach to end of steam pipe for heating liquids in tanks or vats. Modifies that disagreeable noise caused by the direct introduction of a steam jet and raises the liquid to the required temperature in about 70% of time required by latter. By its thorough circulation it distributes an even temperature throughout the tank. Price list upon application.

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ARTHUR BIRCH
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Cutting Machines

Every Textile Manufacturer has his own special problem. If these problems relate to CLOTH CUTTING in any way, shape or form we are always glad to volunteer our help in solving them.

61 Poplar Street
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Cameron Machine Co.

Special Textile
Machine Designers

Telephone 989-3.

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MANUFACTURER OF PATENTED
CORSET AND FABRIC MACHINERY.
Strip Cutting, Folding and Winding Machines, Plain or Bias, 300 to 2400 Yards a Minute.

I personally, have introduced and taught people to do bias on my machines in seven countries. I furnish a complete equipment for cutting straight or bias fabric, and folding same.
Automatic Strip Cutting, Folding and Winding Machines in three variations. Universal Folding, Winding and Spooling Machines in three variations. 40-inch Winding and Cutting Machines. All of the seven machines for straight or bias fabric.
These machines pay for themselves in a short time. Any kind of a folder for any kind of fabric, bias or straight, 1-8 to 6 inch.
151 MIDDLE STREET, BRIDGEPORT, CONN.

Thread and Silk **SPOOLS** of any description
made from one piece, up to 6" long and 3" dia.

We are located in the best white birch region. Our work and prices seem to satisfy the most particular customers. We can give any finish desired. Estimates furnished on samples submitted.

E. L. TEBBETS & CO., Locke's Mills, Me.

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S. A. Felton & Son Co. FOR USE ON ALL MAKES OF REVOLVING FLAT CARDS **Manchester, N.H.**

BALE-TIES and BUCKLES
BOX STRAPPING ALL STYLES
Samples and prices on application.
ACME STEEL GOODS CO.
Name changed from Acme Flexible Clasp Co.
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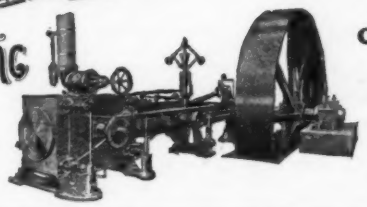
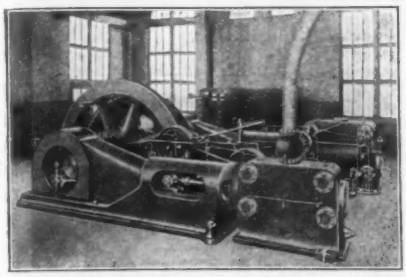
THE IMPROVED FISHKILL CORLISS ENGINE
BUILT BY THE FISHKILL LANDING MACHINE CO.,
FISHKILL HUDSON N.Y.



For all power purposes
where high economy and
close regulation is required.

Cylinders & Valve Chests rebored in place.

General engine repairs.



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Heavy Duty Type
NOTED FOR
RELIABLE SERVICE,
LOW STEAM CONSUMPTION,
LOW FRICTION LOSSES and
SPEEDS HIGHER THAN OTHER CORLISS TYPES.
Designed and built by
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Installed in any type of boiler without change in setting. Uniform superheat guaranteed.
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We offer an attachment for use with our Gear Cutting Machine, to cut key seats for the Woodruff System of Keying. Write for description, circulars and price.

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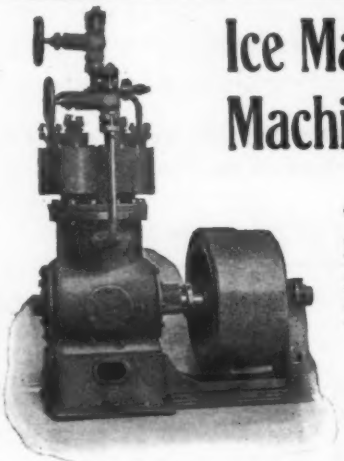
Reeds, Harnesses, Lingoes, Shuttles and Quills.



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of any capacity from 500 lbs. up, per day.

Send for catalogue.

Every Textile Mill can make money by installing its own Ice Making Plant: Ask Joseph Bancroft & Sons Co., Massachusetts Mills in Georgia, Erwin Cotton Mills, Duke, N. C., Belton Mills, Belton, S. C., or

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Trusting you to make shipment at once, we are,

Yours very truly,

Fehring Carriage Co

May we send YOU a sample?

RED Label Brand for Leather belts;
GREEN Label for Rubber or Canvas.
No **one** kind of Dressing is good for **all** belts—you know that.

Of Dealers everywhere, or

STEPHENSON MFG. CO.

ALBANY, N. Y.

Your protection against substitution is **The Man with the Cog-Wheel Face** on each Pound Stick.

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We carry in stock SWATCH BOOKS, size 11x16, having eight swatches to a page, made out of the very best Rope Manila Paper and Canvas Binding.

They are very strong. Each leaf is sewed in separately and in such an improved manner that the book lies perfectly flat, either open or closed.

Our price is $1.25 each, or $12.00 per dozen, delivered.

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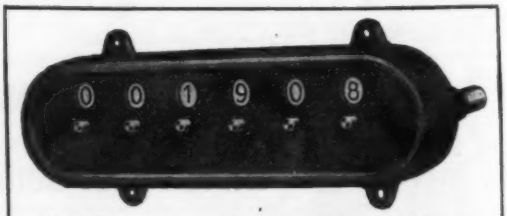

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that will register the output of each machine.

A glance tells how the machines are running —enables you to keep output up and cost down.

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May we send samples? 15 colors and white.

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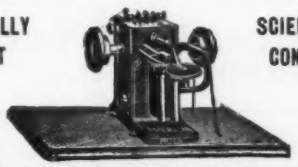

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Card Clothing of Every Description
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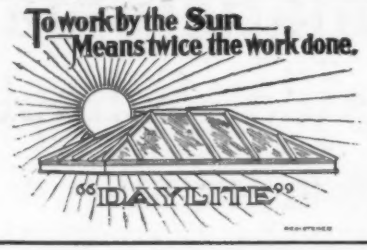
Their Cost		LIGHT
In Freight.		Strong



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ADMIT DAYLIGHT NOTHING ELSE
Applicable wherever overhead light is desired
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Manufacturer of all kinds of SPINDLES, FLYERS, RINGS, TUBES, CAPS, etc., for Cotton, Silk, Flax, Woolen and Worsted Machinery.
Roving Spindles and Flyers a Specialty. Light Forgings.
REPAIRING OF ALL KINDS.

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FOR PRINT WORKS, GINGHAM AND COTTON, MILLS, BLEACHERIES, ETC., ETC.
Send for circular.
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Showing equivalent sizes of different systems of numbering yarn; cotton, woolen, worsted, etc., so that the sizes of different standards may be quickly compared. Also contains a number of other valuable yarn tables for designers, manufacturers and knitters. PRICE 50c. Textile World Record, Boston.

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Mantrs of *BRAIDING MACHINES*
for making Dress Trimming Braids, Cotton Tapes, Underwear Braids, Shoe Laces, Spindle Banding, etc. Winders, Doublers. Measuring Machines, Reelers, Singeing and Finishing Machinery. Special Machinery.

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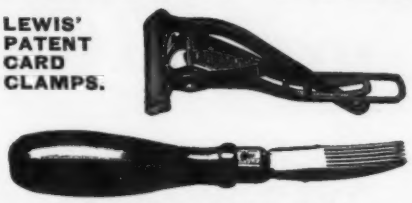

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For setting up Bent Teeth of Card Clothing. Also a variety of other tools used by Carders and Manufacturers. Send for circular.
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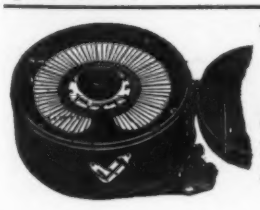

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The New Imperial Watchman's Clock
Compels your watchman to do his duty. This clock will reduce your insurance rate. No complicated mechanism. Absolutely reliable. Full particulars.
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Nothing will appeal more strongly to the man who has been in the mill a life-time, or to the young man just starting out.

We will send books to you, or direct to anyone you want them sent to, without further charge, and with a note expressing your compliments.

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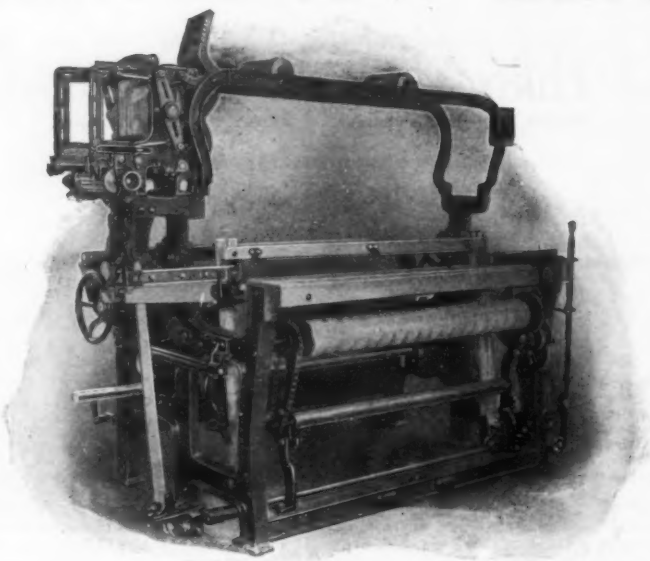

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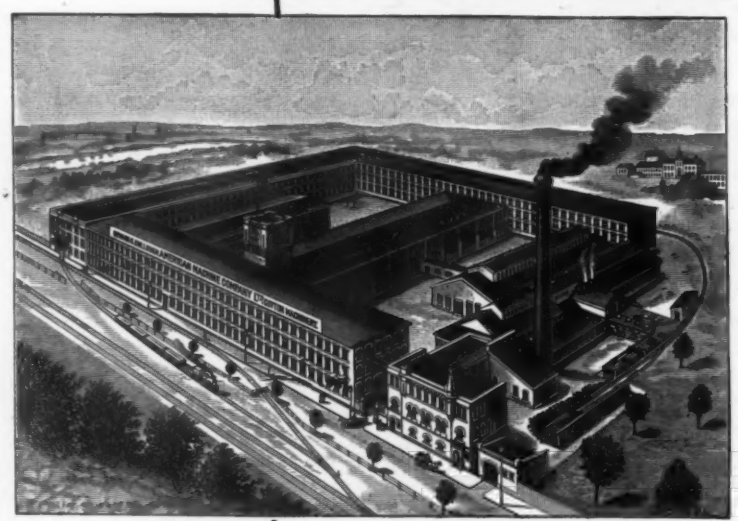

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The Textile World and Textile Record.

VOL. 36 (NEW SERIES.) December, 1908 No. 3

Monthly Comment.

A Fair Price for Cotton.

One of the fundamental principles of good business is to buy at the lowest possible price and sell at the highest. To act contrary to this rule is to invite bankruptcy. This is true of both individuals and nations, and in the application of this principle individual and national interests apparently conflict at times. Such an apparent conflict exists in the case of raw cotton. The cotton manufacturer in the United States finds it for his individual interest to buy raw cotton at as low a price as possible. At the same time the United States as a unit, having a large quantity of cotton to sell, finds it for the national interest to sell raw cotton at as high a price as possible.

What at first appears to be a problem involving an irreconcilable conflict between individual and national interests is on further consideration found susceptible of an easy solution. A high price for cotton sold abroad increases the wealth of the American people and makes it possible for the American cotton manufacturer to sell his finished product at home at higher prices than would otherwise be possible. Thus a high price for raw cotton indirectly makes it possible for him to pay that price for the cotton he buys. This principle of course has its limitations. The price of cotton might reach a point where the purchasing power of the consumer would not warrant bringing the price of goods up to a parity with it, this resulting in a loss in manufacturing operations. Where that point is located has not been determined, and it is idle for Americans to concern themselves about its location. It will be time enough for us to cross that bridge when we come to it. In all probability the foreign consumer would first feel the pinch of high priced cotton so that a restriction of our raw cotton exports would automatically restore the equilibrium of prices without seriously affecting the American consumer. Thus within limits that probably can never be reached the higher the price of cotton the better able are the American cotton manufacturer and consumer to pay for it.

The advantage to the United States of good prices for raw cotton is shown by an examination of the quantity and value of the cotton exported for a series of years. In the year ending June, 1899, we sold 3,773,000,000 pounds of cotton to foreign countries and received $209,600,000, or 5 1/2 cents a pound for it. In the year ending June, 1908, we exported practically the same amount, to be exact, 3,816,000,000 pounds, and received $437,700,000, or 11 1/2 cents a pound for it. Thus our annual income from abroad was increased to the

amount of $228,000,000 by the rise in the price of cotton from 5 1/2 to 11 1/2 cents a pound. Such an incoming stream of wealth would effect staggering results in the course of years. The twelve years from 1892 to 1903 was a period of low prices for cotton. During that time we exported 37,892,000,000 pounds of cotton, and received $2,916,000,000 or 7 7/10 cents a pound for it. If during that period the price of cotton had averaged 12 cents we would have obtained $4,547,000,000 for the cotton exported, or $1,631,000,000 more than we did receive.

The vast possibilities for money making by selling our surplus cotton at good prices are still with us. The world depends on the United States for cotton and every American should understand the advantage of obtaining and seek to obtain for our surplus cotton all that the foreign cotton trade will bear.

The Textile World Record was the first journal representing textile manufacturing interests that recognized and proclaimed the advantages to all American interests of fair prices for American cotton. This position we have maintained for years without variation and it is gratifying to find evidence that the textile trade agrees with us, as is shown in the following letter from James R. MacColl, ex-president of the National Association of Cotton Manufacturers to Harvie Jordan, president of the Southern Cotton Association:

Pawtucket, R. I., Nov. 2, 1908.

Mr. Harvie Jordan, President Southern Cotton Association, Atlanta, Ga.

Dear Sir:—I thank you for your kind invitation to attend the Cotton Conference at Memphis, and regret that on account of other engagements I am unable to accept it. I am thoroughly in sympathy with the work of your Association in endeavoring to obtain for the growers of cotton a profitable price for the cotton crop. The recent period of activity in the cotton industry of the world demonstrated the fact that a so-called high price for cotton does not seriously interfere with the consumption, nor with the profit in manufacturing the raw material. I believe that most American manufacturers, who have given thought to the subject, realize that an adequate price for cotton, by increasing the wealth of the South, would tend towards the prosperity of the whole country. It should, however, be remembered that an exorbitant profit will tend to stimulate production both in the Southern States and throughout the world, and also that in a period of business depression, when manufacturing is being carried on without profit, the farmers must expect to some extent to share in the effects of this condition, remembering that at such times low prices of manufactured goods stimulate buying and bring about a recovery.

Hoping that you will have a most successful meeting, I am,

Yours very truly,

J. R. MacColl.

There is no occasion for uneasiness over the possibility of high prices for American cotton stimulating production abroad. It will be time enough to take that into consideration when colonial cotton becomes an appreciable quantity in the statistics of cotton movement into sight.

The Compulsory Working of Foreign Patents.

The reassembling of Congress strengthens the general interest in the question of providing some means for the compulsory working in the United States of inventions patented by foreigners in the United States, or patented in this country by anyone and worked abroad to supply the American market. It will be remembered that at its last session Congress was persuaded to postpone action in order to give the State Department an opportunity to reach a solution of the question by negotiations with foreign countries. Nothing has as yet been made public as to what results if any have attended this diplomatic effort. While we are waiting for action at Washington it will be useful to examine the list of new industries that the British law passed last year and has already brought into British territory. It should not be forgotten that, important as this list is, it includes only those companies or firms whose action in establishing British branches because of the new patent act has been announced in the press. There are undoubtedly others that are establishing works on British territory for the same reason that have avoided publicity. Then there are the large number that have protected their British patents by arranging with British firms for working them in the United Kingdom. In our October issue we called attention to the visit to this country of two representatives of the Trafford Park Estates on the Manchester ship canal, to arrange with American owners of British patents for working their inventions in Trafford Park.

On their return to Manchester the following announcement appeared in the Guardian:

As a result of the visit an arrangement has been made for the representatives of numerous American firms holding patent rights in this country to visit Manchester to go into the conditions of local manufacture.

Steps have also been taken for the launching of a scheme to raise capital for the erection at Trafford Park of an extensive works on the "hive" or combined system, combining all the facilities and advantages available for manufacturers on the canal and at Trafford Park, and the leasing of it off to thirty or forty manufacturers in sections suitable to their requirements.

An interesting development of the situation is the effort made to attract to Ireland foreign, and especially American firms seeking to protect their British patents. This is indicated by the following letter from John Redmond, M. P., to Joseph McCarroll, H. C., of Wicklow.

United Irish League,
39 Upper O'Connell St.,
Dublin, Oct. 22, 1908.

My Dear McCarroll: With reference to our conversation this morning, I quite agree with you that Wicklow possesses many special advantages for the starting of manufactures and industries.

When I was in America, I found that widespread interest was taken in the new Patents Law. I had the opportunity of meeting many of the manufacturing and commercial class, especially in Boston, New York, Chicago, and Philadelphia, and they all realized that in consequence of the new law it will be necessary for them to start factories in some part of Great Britain or Ireland. I urged most strongly upon them that a preference should be given to Ireland. Doing this would entail no loss upon them; but, on the contrary, owing to cheap labor, good water power, and other advantages, they would gain by starting their factories in this country rather than in Great Britain.

The suggestions I made were received most sympathetically, and I have no doubt that some of the American manufacturers will, before long, take steps to start factories in this country.

I see that England is taking steps to induce the building of factories in England by sending a deputation to America to interview the manufacturers there. I hope that those who are specially engaged in the effort to resuscitate Irish industries will take what steps they think best to follow up the suggestions which I made to American manufacturers during my recent trip.

Very truly yours,
J. E. Redmond.

Following is a list of foreign firms which are establishing British branch works to protect their British patents:

1. An American manufacturer of safety razors is to establish works at Sheffield employing 500 hands.

2. The Hoechst Farbwerke, German manufacturers of artificial dyestuffs, have established works at Ellesmere Port, near Chester, Eng. This plant is shown in course of construction in the accompanying illustration, it being the first factory established on British soil for the manufacture of artificial indigo.

3. The Farbenfabriken of Elberfeld Co., another of the great German dyestuff companies, is to establish works near Manchester, Eng., for the manufacture of all of its products.

4. The J. P. Bemberg Aktien Gesellschaft, of Oehde, near Barmen-Rittenhausen, Germany, is to establish branch works in England for the production of artificial silk.

5. The United Shoe Machinery Co., of Massachusetts, are to build more of their machines in England to prevent revocation of their patents. For this purpose they are enlarging their works at Leicester, England.

6. The Badische Anilin and Sodafabrik, Ludwigshafen am Rhein, Germany, is preparing to establish branch works in England.

7. The Aktiengesellschaft fuer Anilinfabrikation, of Berlin, Germany, is negotiating for a site for branch works in England.

8. The Sanatogen Food Co. is to manufacture their products by patented processes in Cornwall.

9. The Pintsch Suction Gas Plant Co. is establishing branch works in London.

10. The National Cash Register Co. is protecting their British patents by manufacturing their products in London.

11. The Linkmeyer Artificial Silk Co. has arranged to have its processes worked in England by a branch under the name of the United Celluloid Silk Spinners, Ltd.

12. The Vereinigte Glanzstaff-Fabriken, of Elberfeld, Germany, manufacturers of artificial silk, with branches in Austria and France, have organized a British branch with a capital of $875,000. The English works are now in course of construction, this branch having been established to protect the British patents.

13. The Deutsch Waffen and Munitions Gesellschaft, German manufacturers of arms and munitions of war, will locate probably in Wales.

14. The Buffalo (N. Y.) Specialty Co. will establish branch works at London.

15. The Clinton (Mass.) Wire Cloth Co. Works to be built in Cheshire.

16. The Staly Electrophone Co., of Chicago, Ill. Pocket telephones for the deaf. Branch works at London, to employ 600 hands.

17. Pacific Electric Heating, Chicago, Ill. Branch works at Coventry.

18. The Negri-Pipiz Co. A factor for the manufacture of patented toothpicks, St. James Market, Piccadilly, London.

19. The Mills Novelty Co. (American). A factory at London for the manufacture of slot machines and other patented novelties.

20. The Pforzheim Colony (German). Branch works for the manufacture of jewelry.

21. The Treefood Co. (American). A large factory at Wrenbury, Cheshire, for the manufacture of milk and egg food.

No Reduction of Wages at Fall River.

The decision of the Fall River cotton manufacturers to waive their right to reduce wages 8.44 per cent. from 19.66 to 18 cents per cut under the sliding scale agreement is an event of deep significance. It was made known by the following letter from the Manufacturers' Association to the Textile Council:

Cotton Manufacturers' Association.
Fall River, Mass., Nov. 19, 1908.

To the Textile Council of Fall River, Gentlemen:

By the terms of the agreement between the Cotton Manufacturers' Association and the textile unions of Fall River, the wages now in force will be automatically reduced on December 7th by reason of the margin between the price of cloth and the price of cotton computed to the 28th inst.

Believing that indications point to a prosperous season, the Manufacturers' Association is inclined to waive, for the present occasion, its right under the contract to reduce wages and to suggest, if it is agreeable to the Textile Council, that the present rate of wages be maintained for the ensuing period of six months, it being thoroughly understood that the extra wage thus paid is something over and above what is required by the contract, which still remains binding on both parties, and is offered as in some way a substantial recognition of the good faith of the operatives in remaining true to their contractual obligations.

If, therefore, the members of the Textile Council approve this suggestion, and thus indicate their understanding that no precedent is hereby established and that the textile agreement still remains in full force, the arrangement outlined above will become effective.

Executive Committee of Cotton Manufacturers' Association,
George H. Hills,
President.

The undersigned, members of the Fall River Textile Council, approve the foregoing and agree thereto,

Carders' Protective Association,
James Tansey,
Secretary.

Weavers' Progressive Association,
James Whitehead,
Secretary.

Mule Spinners' Association.
Thomas O'Donnell,
Secretary and Treasurer.

Loomfixers' Association,
Thomas Taylor,
Secretary.

Slasher Tenders' Association,
William Harwood,
Secretary and Treasurer.

The operation of the sliding scale during the past six months, and which under the agreement would have brought about a reduction to 18 cents a cut for the next six months, has been as follows:

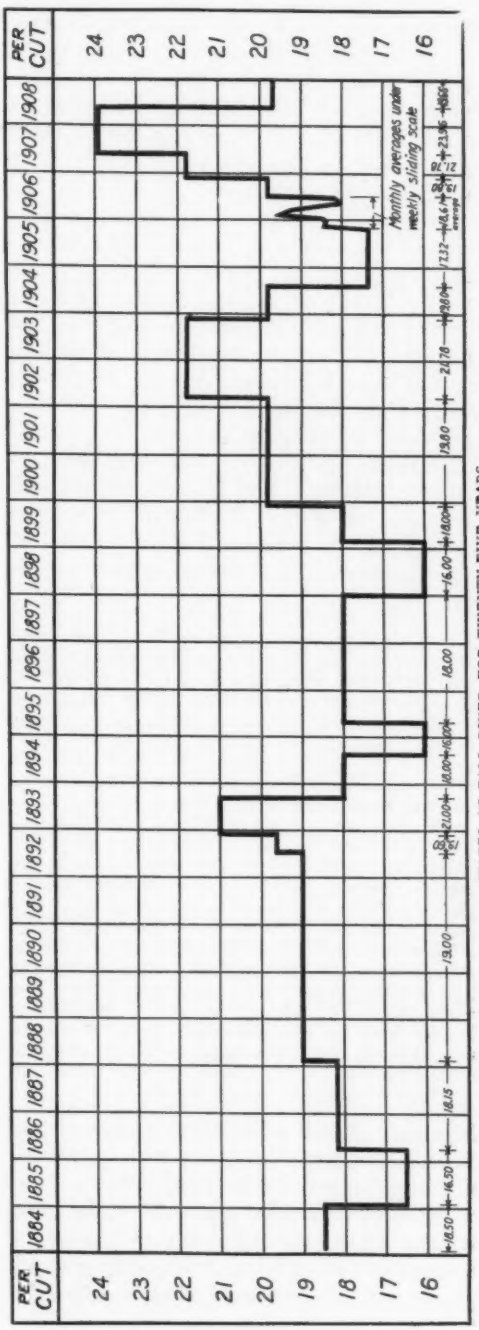
	Cotton	28 inch 64 x 64	38½ inch 64 x 64	Margin
May 29	11.41⅔	3¼	4 7/16	57.3239
June 5	11.44	3¼	4⅜	58.1719
June 12	11.40	3¼	4⅜	58.4919
June 19	11.85⅚	3¼	4⅜	54.8252
June 26	11.85	3¼	4 29/48	54.5470
July 3	11.48⅓	3¼	4 29/48	55.9283
July 10	11.22	3¼	4½	57.8625
July 17	11.08⅓	3¼	4 5/12	57.5762
July 24	10.89⅓	3¼	4 17/48	58.0749
July 31	10.73⅓	3¼	4¼	57.6171
Aug. 7	10.75⅝	3¼	4 1/12	54.6579
Aug. 14	10.59⅓	3¼	4⅛	56.6811
Aug. 21	10.30⅝	3¼	4⅛	58.9477
Aug. 28	9.78⅓	3 1/16	4⅛	58.9289
Sept. 4	9.36⅜	3	4⅛	60.8561
Sept. 11	9.38	3	4⅛	60.7494
Sept. 18	9.46⅔	3	4⅛	60.0561
Sept. 25	9.40	3	4⅛	60.5894
Oct. 2	9.325	3	4 1/48	59.4649
Oct. 9	9.075	3	4⅛	63.1894
Oct. 16	9.19⅓	3	4⅛	62.2561
Oct. 23	9.30⅝	3 1/16	4 7/48	63.17385
Oct. 30	9.375	3⅛	4 5/16	66.7059
Nov. 6	9.33	3⅛	4 23/40	73.0991
Nov. 13	9.31⅔	3¼	4 31/48	75.4035
Nov. 20	9.45⅝	3¼	4¾	76.0945
Nov. 27	9.49	3 7/20	4¾	78.0912
Average				61.458

About 25,000 operatives are affected by the agreement so that the voluntary waiver of the reduction by the manufacturers makes a difference equal to full wages for over 2,100 operatives. That is a very large amount for the manufacturers to relinquish and they deserve great credit for their generous action. Nothing could have been more effective and timely than this waiver in strengthening the good feeling between cotton employers and employes which has been growing since the present sliding scale agreement went into effect. The sliding scale is imperfect; it fails to meet the requirement of either employer or employe. But the great thing about it is that it is an agreement for the automatic regulation of wages. Under it both sides have exhibited moderation, a spirit of conciliation and a determination to abide by its terms. And this commendable disposition has been exhibited by the employes at a time when the agreement imposed on them such a serious burden as a cut of 18 per cent., with the prospect of another of 8 1/2 per cent.

The manufacturers, on the other hand, modified the agreement early in its history so as to provide for a minimum wage with greater stability, and now they have given most striking proof of their spirit of concession and cooperation by relinquishing an important advantage under the agreement. They do this undoubtedly because they believe that insisting on the reduction would be an injustice. This is the practical recognition of the important fact that the wages of textile mill operatives are below the American wage standard.

This inequality was illustrated in our October issue by a comparison of weavers' and masons' wages in England and the United States. A mason earns 155 per cent. more in the United States than in England, although working 4 1/2 hours less a week. A weaver earns only 38 per cent. more in the United States than in England, although working 4 hours more a week. Illustrations of similar discrepancies can be found by comparing American and foreign wages in the textile trades with American and foreign wages in other occupations that enjoy natural and prohibitory protection, the latter being illustrated by the work of house carpenters, barbers, lawyers, doctors, schoolteachers, stenographers, government officials and others.

It is not fair that those who receive the full American compensation because naturally protected against foreign competition, should be able to buy transportable products at the low prices made possible by bringing the production of these transportable products into competition with cheap foreign labor. The wages of all American industries should be on an American level. The manufacturers of Fall River have proved their desire to pay the highest wages warranted by business conditions. That spirit should, we believe, and will animate all American manufacturers. But they cannot pay more than the consumer will pay to them. Consequently if the American working people engaged in the production of easily transportable goods, like textiles, are to obtain American wages they must address themselves to the problem of providing their occupations with some arbitrary barrier against foreign goods that will correspond to the barrier provided by nature in other occupations.



Standard Grades for American Cotton.

At its last session Congress authorized the Department of Agriculture to establish nine standard grades for American cotton, the object being to secure uniformity of grading in all cotton markets. This action by Congress was the result of the agitation for the correction of abuses in the marketing of cotton, particularly in connection with trading on the exchanges. The public has known nothing as to what action the Department was taking to establish these standards, but the recent publication in English papers of a letter from the Bureau of Plant Industry to C. W. Macara, President of the European Cotton Federation, reveals the fact that the Department has its plans well advanced for holding a conference of cotton experts at Washington early in 1909 to establish these grades. In this letter the Department requests Mr. Macara to suggest the names of several European experts to represent Great Britain and the Continent at the Conference. The letter is in part as follows:

> It is desired to secure for this Conference men of the very highest ability as cotton experts, and, at the same time, men who have the very highest business standing and are thoroughly conservant with all phases of the cotton trade. Little difficulty is experienced in securing men of this character from the United States, prominent business men having already indicated their willingness to serve the cotton trade in this respect. It is thought that two or three days in Washington will be sufficient for the Conference. The Department of Agriculture will refund traveling expenses of the members. All the facilities of the Department of Agriculture will be placed at the disposal of the members of the Committee. They will have assembled for their information cotton standards from all the American cotton exchanges and from the foreign cotton exchanges, these exchanges having generously agreed to contribute their standards for this purpose.
>
> It is thought that you may be able to suggest members who will attend this Conference, men of the highest standard indicated above.

It is right that the Department should call to its aid the best European experts in establishing the standards for American cotton, but it is somewhat anomalous that the first news of the coming conference on cotton standards should be obtained by way of England and as a result of what is evidently the unauthorized publication of the Department's letter to the European Federation. There is no reason for secrecy in regard to the fixing of these standards and there is every reason for the widest publicity in order that every branch of the cotton trade may have an opportunity to aid in this important work.

No Boycott of Consumers.

The lockout in Lancashire was brought to a sudden end last month by a compromise which provided that the 5 per cent. reduction of wages should go into effect on March 1 instead of Jan. 1, 1909. The operatives have gained the 5 per cent. for two months at a cost of two months of idleness. They have also shown their readiness to make heavy sacrifices rather than submit to what they believe to be an unwarranted reduction of wages, and this, they profess to believe, will bring its reward in future negotiations with their employers.

The settlement last month was unquestionably hastened by the pressure of public opinion. The employers had taken the position that they could stand the lockout indefinitely, that in fact it worked to their advantage by cheapening the raw material and raising the price of goods. In this frame of mind they were deaf to all arguments in favor of compromise until they discovered that the British public was getting angry. The unemployed present a serious problem in all branches of British trade. Public charity is taxed to the limit. Mayors and other officials have organized relief funds, and have appealed to the press to solicit subscriptions. Widespread suffering and destitution prevail among the poor, while the approach of winter threatens an early aggravation of an already desperate situation. It was this condition that made the lockout among the cotton operatives intolerable. The public demanded that the employers abandon their stiff-necked attitude and recognize that they owed something to the community as well as to their stockholders. Commenting on this phase of the question the "Manchester Guardian" said:

No industry, no community, no individual manufacturer can hope to prosper by idleness or by boycotting consumers, and we hope that this autumn's experience, when we have seen how little impression upon the world's markets has been created by nearly two months' cessation of work in our spinning mills, may induce the leaders of industry to take a somewhat more sceptical view of the supposed economic virtues of organized waste of time. It was not by such methods that England's supremacy in the cotton cloth markets of the world was achieved by our fathers and grandfathers, nor is it by such methods that we can hope to maintain it.

The enthusiasm among English cotton spinners regarding short time as a panacea for all their industrial ills has been dampened, and they have been suddenly brought to a realization of the fact that the running of a cotton mill is not only a privilege, but to a certain extent an obligation. The weight of this obligation will in all probability stimulate interest in the automatic regulation of wages in English mills, a question on which the "Guardian" makes these very pertinent observations:

If we attribute (as we must) to all concerned in the unhappy business—employers and trade unionists alike—the best intentions, a single devotion to their conceptions of duty and equity, and an average share of common sense, and consider how bad has been their collective failure to avert a very disastrous suspension of industry, we are driven to conclude that some further element is necessary to safeguard the common interests of Lancashire in future. Wage disputes in highly organized industries are becoming less and less a matter of ethics or of "bluff" and more and more a matter of arithmetic. When everybody has a good cause and is equally ready and able to fight for it some absolutely neutral and even impersonal arbitrament becomes necessary—some means of ascertaining, otherwise than experimentally, who would bleed to death first in the event of a struggle to the bitter end. In the Lancashire cotton industry we have reached the stage when some such automatic instrument for determining the time and direction of wage fluctuations within certain limits is required if our admirable organizations of capital and labor are not to offer to the world periodical exhibitions of dissension and obstinacy which would invite the laughter when they did not evoke the compassion of our rivals. We look to those to whose care the interests of the various parties concerned are entrusted to endeavor once more in a reasonable and conciliatory spirit to fashion an instrument which shall remove from Lancashire the risk of these recurring industrial humiliations.

Brazil imported hosiery from Germany in 1907 to the amount of $239,220, as compared with $304,743 the year before.

The Work of the Bureau of Manufactures.

In the work of preparation for the revision of the Dingley tariff the Bureau of Manufactures, of which Major John M. Carson is Chief, is deserving of especial credit. The task was to obtain reliable data relating to a large number of industries in foreign countries. It was necessary not only to have competent agents abroad, but to give these investigators detailed instructions as to the information desired. Moreover the work required a great deal of time and it was, therefore, essential that the plan of operation should be defined long before the reports were wanted. That involved a careful investigation of the technical details of many trades by the Department at Washington. We have had an opportunity of observing the painstaking and systematic character of this work as related to textile manufacturing, both in its preparatory stage and as developed by the agents who were sent abroad to make the inquiries on the spot. The Department knew what it wanted and was fortunate in its selection of the men to carry out the plan abroad. It was a difficult and delicate mission, involving inquiries in the business affairs of foreign manufacturers, and the tactfulness and good judgment with which it has been performed are demonstrated by the fact that from no foreign district visited by these United States special agents has there come the slightest complaint. Moreover they got results. Our English correspondent quotes in this issue a speaker who was addressing a week or two ago several hundred manufacturers at Bradford. Speaking of the work done by Special Agent W. A. Graham Clark, the speaker said: "He has far more detailed information as to costs in the district than I have, and more I believe than any man in this room has."

The mass of information thus obtained will prove of great value to the Committee on Ways and Means in the revision of the tariff and to the public in forming a judgment of any changes that may be proposed. Doubtless these agents, many of whom have been engaged for several years in this foreign investigation, have accumulated a valu-

able fund of information that they have not been able to send home by means of written reports. For this reason we want to suggest that on their return home arrangements be made for them to meet American manufacturers and answer any questions that may be asked, supplementing their valuable written reports by informal talks in the leading manufacturing districts.

How It Looks to the Germans.

Revising the Dingley tariff downwards is very popular in Germany and the following extract from the "Wochenberichte der Leipziger Monatschrift fuer Textil-Industrie" expresses the general German hope tempered by doubt:

The German manufacturers of goods for export have for several months looked forward hopefully to the close of the presidential campaign in the United States. The news last week that Taft, the Republican candidate had been elected caused general satisfaction among all classes of German manufacturers. The trade expects that the election of Taft will be followed by a prompt revision of the Dingley tariff, which is now causing so much injury to our exports to America.

This hope should not be allowed to rise too high because Taft during the campaign made the following statement of his position on tariff revision:

The Republican system of tariff protection has led to the establishment of a standard of wages which makes possible a much higher standard of living for the worker. It is the policy of the Republican party to raise this standard of living still higher. Since the Dingley tariff went into effect, the conditions of production have changed in certain branches of industry. The tariff on some goods is higher than the difference between the cost of production in Europe and here, plus a fair profit for the manufacturer. An excess above this difference is only an aid to the establishment and maintenance of monopolies. On the other hand there are other industries that are not sufficiently protected and these deserve a higher tariff. A revision of the tariff in these two directions at the beginning of the new administration by Congress at a special session, will cause the least possible disturbance to the home trade.

Even though we are called upon to temper the German hope that the Dingley tariff, which bears so heavily on our industry, may be lowered, on the other hand, it should not be forgotten that the end of the presidential campaign, which has disturbed business so much, is likely to mark the beginning of better business, resulting in increased exports of German goods to the United States.

A Good Example.

The Chinese Board of Industries and Commerce has recently issued an order requiring all uniforms for the army, police and schools throughout the empire to be made exclusively of Chinese material. This excellent order which originated with the Haimen Chamber of Commerce is a significant sign of the "awakening of China." One of the first signs that a nation is awake is the protection of home industries. At first the Chinese uniforms from native cloths will be of coarse texture as the Chinese textile industry has not advanced to the manufacture of fine goods. Gradually, however, the fabrics will doubtless improve in quality and this will correspond with an improvement in the condition of the people themselves. The world cannot count on an exploitation of China for the benefit of foreign industries. That country is surely under the influence of the world-wide trend toward the protection and development of local industries. This means a decrease in international commerce, but an increase in the welfare of the human race.

Our Foreign Trade in Textiles.

The accompanying tables and charts of our textile exports and imports for the last nineteen years are of especial interest at the present time. The charts show in graphic form the fluctuations in the annual totals for each class of materials with the exception of the exports of wool and wool goods. The latter are omitted because so small that they could not be shown on the scale adopted for the imports. The annual totals for raw cotton exports are so large that a greatly reduced (1/5) scale had to be adopted to keep the charts of uniform size.

China imported cotton goods to the extent of $95,132,362 in 1907, against $122,182,276 in 1906, and $145,162,360 in 1905.

EXPORTS AND IMPORTS OF RAW COTTON AND WASTE.

Lbs. in units of one million. Value in units of $100,000.

Year Ending June 30	Exports.									Imports.				
	Sea Island.		Other.		Total.			Cotton Waste.		Raw Cotton.			Cotton Waste.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Value per lb.	Lbs.	Value.	Lbs.	Value.	Value per lb	Lbs.	Value.
1890	9	23	2462	2486	2471	2509	10.15	..	..	8.6	13.9	16.16	..	..
1891	14	81	2893	2876	2907	2907	10.00	..	..	20.9	28.2	13.49	..	..
1892	19	16	2926	2568	2945	2584	8.77	..	..	28.7	32.1	11.18	..	..
1893	8	17	2204	1870	2212	1887	8.53	..	..	43.4	46.9	10.80	1.9	.8
1894	14	29	2669	2080	2683	2109	7.82	..	..	27.7	30	10.83	2.7	.9
1895	15	28	3502	2021	3517	2049	5.82	..	..	49.3	47	9.53	2.9	1
1896	19	38	2316	1862	2335	1900	8.13	..	..	55.3	66	11.93	6	2.1
1897	21	41	3082	2268	3103	2309	7.12	..	..	51.9	59	11.36	5.3	1.7
1898	16	28	3834	2277	3850	2304	5.98	19.1	7.9	52.7	50	9.48	6.7	1.5
1899	14	24	3759	2072	3773	2096	5.55	21.1	8.3	50.2	50.1	9.98	6	2.1
1900	18	30	3082	2388	3100	2418	7.80	38.6	17.7	67.4	79.6	11.81	7.9	2.4
1901	11	22	3320	3137	3331	3137	9.41	50.6	26.3	47.0	68.0	14.45	6.2	1.9
1902	12	24	3488	2881	3500	2906	8.30	42.9	16.4	98.17	117.1	11.89	14.3	5.0
1903	20	40	3522	3121	3543	3161	8.92	49.1	21.7	75.40	109.7	14.41	23.2	8.0
1904	13	31	3049	3676	3062	3707	12.01	52.7	28.2	48.84	85.4	17.47	20.8	8.4
1905	16	33	4288	3765	4304	3799	8.82	53.9	24.7	60.5	94.1	15.57	24.3	12.4
1906	16	33	3617	3977	3634	4010	11.03	37.8	18.5	70.9	108.8	15.33	26	13.6
1907	7	20	4519	4800	4524	4820	10.65	46.0	23.6	104.7	199.3	19.03	22.9	10.4
1908	12	33	3804	4344	3816	4377	11.47	45.8	26.3	71.0	141.7	19.95	10.7	4.45

EXPORTS AND IMPORTS OF MANUFACTURED COTTONS.

Value in units of $100,000.

Year Ending June 30	Exports — Value.					Imports — Value.							
	Colored.	Uncolored.	Apparel.	Other.	Total.	Colored.	Uncolored.	Apparel.	Laces, etc.	Thread.	Knit Goods.	Other.	Total.
1890	29	55	2	14	100	33.7	1.3	3.4	114.5	9	71.5	65.8	299.2
1891	26	93	3	15	137	42.4	1.7	12	105.9	8.6	67.4	59.2	297.2
1892	25	87	4	16	132	45	1.4	12.6	112.5	6.6	58.3	46.7	283.1
1893	18	63	5	22	118	55.4	2.6	16.8	127.4	7.6	63.9	61.8	335.5
1894	38	76	5	24	143	33.8	1	16.6	80.2	3.3	43.6	45	223.5
1895	35	70	5	28	138	54.3	1.2	27.7	116.9	6.6	65.4	59.9	332
1896	34	95	7	32	168	49.2	1.8	26.8	108.8	8.7	61.9	67.1	324.3
1897	48	125	9	29	211	44	2.7	26.3	125.7	6.5	56	83	344.2
1898	41	92	9	25	167	53.1	1.2	10.5	117.7	6.9	40.3	42.9	272.6
1899	52	138	13	30	233	66.5	1.1	10.3	145.5	8.5	43.4	45.3	320.6
1900	48	132	16	37	233	81.6	3.6	12.4	192.1	21	47.2	55.3	413.2
1901	66	76	17	33	192	59.2	2.0	15.3	202.3	17.5	55.0	51.4	402.7
1902	74	185	20	34	313	69.3	.9	16.5	224.5	19.2	53.6	60.4	444.4
1903	84	169	26	30	309	90.1	1.5	22.5	251.1	24.2	61.6	73.6	524.6
1904	54	92	27	34	207	81.4	1.5	25.0	248.4	22.6	60.4	55.6	494.9
1905	73	339	34	35	496	77.9	1.5	23.8	259.1	22	61.5	43.2	409.7
1906	69	363	43	36	510	117.2	2.1	29.1	340.2	26	72.2	43.5	630.3
1907	75	136	47	35	293	127.2	2.8	37.7	397.5	35.8	86.7	39.4	727.1
1908	58	84	47	31	271	12.08	3.4	41.9	346.1	39.2	90.3	52.	683.7

EXPORTS AND IMPORTS OF RAW WOOL, YARN AND WASTE.

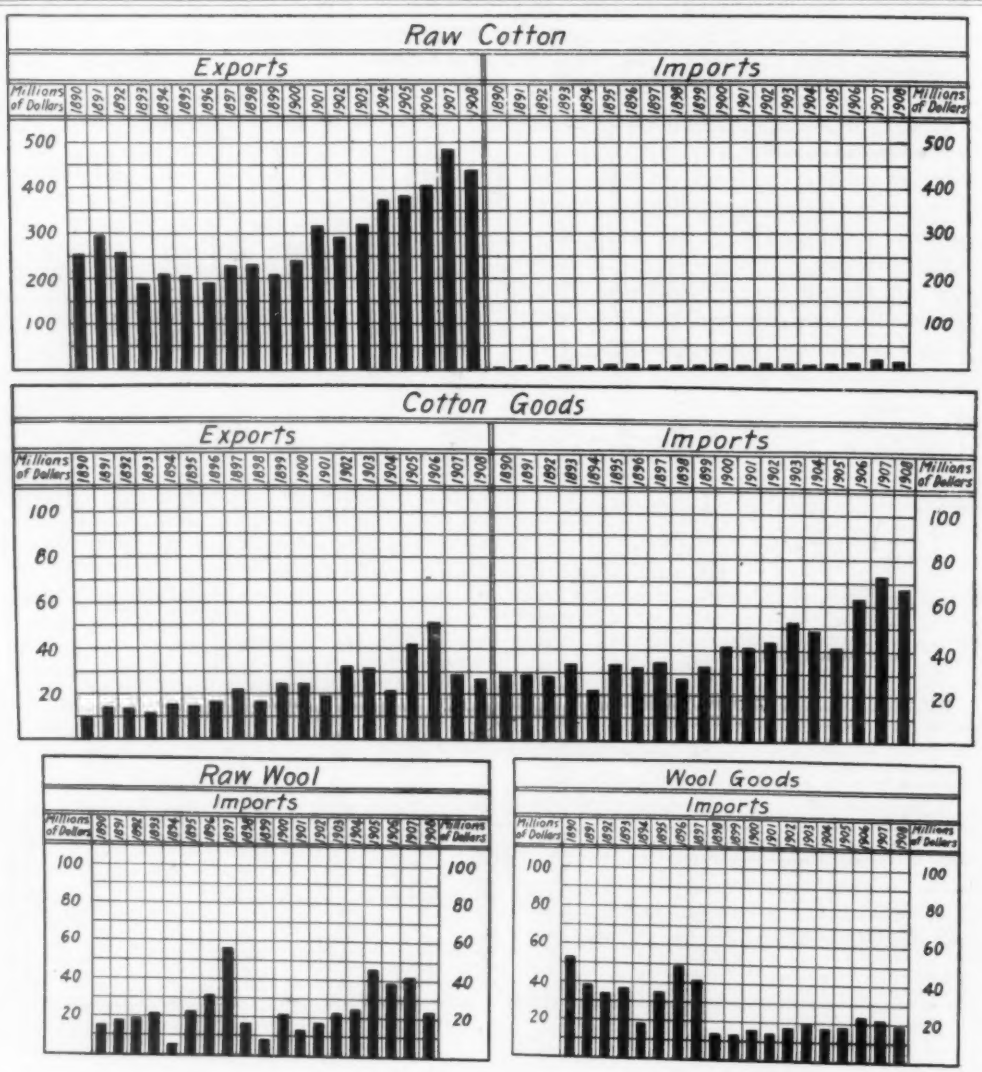
Lbs. in units of one million. Value in units of $100,000.

Year Ending June 30.	Exports.		Imports.					
	Wool.		Wool.		Shoddy, Noils, etc.		Yarn.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
1890	.231	.335	106.3	152.6	5.0	20.5	3.5	19.9
1891	.291	.394	129.3	182.4	1.2	4.3	2.0	11.9
1892	.202	.306	148.7	196.9	.3	.9	1.3	7.5
1893	.091	.148	172.4	210.6	.3	1.1	1.2	6.9
1894	520	.906	55.2	61.1	.1	.5	.5	3.6
1895	4.289	4.844	192.8	229.9	14.1	19.8	2.4	11.7
1896	6.945	8.559	228.4	315.0	18.7	26.5	2.0	10.5
1897	5.271	6.199	366.6	567.5	49.9	69.3	1.8	9.6
1898	.121	.180	132.8	167.8	3.3	6.9	.3	1.9
1899	1.683	2.378	76.7	83.2	.3	.7	.2	1.1
1900	2.200	3.872	155.9	202.6	.4	.9	.2	1.3
1901	.200	.240	104.0	125.2	.6	1.8	.2	1.5
1902	.123	.133	166.2	177.1	.2	.6	.4	1.9
1903	.518	.718	177.1	221.5	.3	.9	.3	1.9
1904	.319	.371	173.7	248.1	.2	.5	.1	1.1
1905	.123	.150	249.1	462.2	.2	.8	1	1.2
1906	.192	.200	201.7	390.7	1.2	4.3	.2	1.6
1907	.214	.488	203.8	415.3	.6	2.7	.1	1.5
1908	.182	.421	125.9	236.6	1.2	1.2	.2	1.5

EXPORTS AND IMPORTS OF MANUFACTURED WOOLENS.

Value in units of $100,000.

Year Ending June 30.	Exports—Value.						Imports—Value.							
	Carpets.	Dress Goods.	Flannels and Blankets.	Apparel.	Other.	Total.	Carpets.	Cloths.	Dress Goods.	Shawls.	Clothing.	Knit Goods.	Other.	Total.
1890	.067	....	.409	3.179	.719	4.374	7.5	161.4	242.0	10.1	18.4	19.8	66.2	525.4
1891	.184	....	.265	4.240	.502	5.191	13.7	120.3	182.4	7.2	18.6	12.5	39.7	394.4
1892	.093	....	.244	2.689	.649	3.675	12.9	127.6	164.7	3.5	14.8	11.6	12.1	347.2
1893	.115	...	.242	2.224	.679	3.260	15.8	151.2	164.8	2.8	11.7	14.1	12.0	372.4
1894	2.500	....	.387	3.172	1.685	7.744	9.6	67.6	85.8	1.6	8.6	10.0	7.2	190.4
1895	1.610	....	.498	3.161	1.432	6.701	13.6	163.0	144.0	2.0	10.0	9.4	11.8	353.8
1896	2.252	....	.370	3.653	2.860	9.135	8.9	218.9	190.3	4.5	13.0	25.4	27.4	497.4
1897	1.895	....	.573	2.858	3.150	9.476	7.8	170.1	107.9	4.6	9.8	25.3	27.0	412.5
1898	1.612	.414	.474	4.290	4.074	10.89	17.9	39.6	60.4	.4	7.6	3.9	9.6	139.4
1899	.811	.169	.427	5.388	3.679	10.47	17.6	39.1	59.1	.5	8.3	6.3	5.6	136.5
1900	1.150	.244	1.002	5.654	4.485	12.54	27.5	51.3	58.7	.8	9.9	5.0	6.3	159.5
1901	1.051	.082	1.230	8.060	5.005	15.43	27.0	39.6	53.7	.8	11.7	4.1	5.3	142.1
1902	.867	.070	.883	8.521	4.780	15.12	34.4	48.0	64.0	.5	13.3	5.7	5.2	171.4
1903	.579	.074	.481	12.908	3.187	17.22	37.5	48.6	75.1	.5	19.2	6.7	4.7	196.
1904	.509	.078	.105	14.577	3.663	19.87	27.9	41.5	82.0	.5	13.0	5.1	5.2	175.2
1905	.646	.155	.815	16.244	2.488	20.35	28.7	39.7	86.1	.6	13.7	2.2	5.4	178.2
1906	.573	.164	.724	16.184	3.549	21.19	46.4	51.6	100.5	.5	16.3	2.7	7.	225.9
1907	.577	.056	.549	16.887	4.319	22.38	44.3	57.3	92.4	—	16.7	2.1	6.0	218.8
1908	.630	.136	.350	17.178	3.931	22.19	27.9	48.6	92.2	—	16.2	.35	7.3	192.6



More Facts About the Khaki Contracts.

A few days after the publication of the article, "British Khaki for American Soldiers," in our August issue, we were informed by the Quartermaster General at Washington that a contract for 464,000 yards of Wigan No. 2 khaki at 14 2/3 cents a yard had been awarded to Holliday, Wise & Co., of Manila. As the Quartermaster General had previously informed us that this material, Wigan khaki, cost 19 cents a yard, we asked him for an explanation of the discrepancy and were informed that the higher price was for the material purchased last year; that the lower price was for the goods for which a contract had been awarded this year, June 17, 1908; and that it was "not known here (Washington) whether any difference exists in the two fabrics."

In order to get at the facts we wrote to Holliday, Wise & Co., the contractor who supplied the British goods at Manila, and to the Quartermaster, U. S. Army, at Manila, asking for samples of the 14 2/3 cent British cloth. The Quartermaster at Manila in reply sent us a two-yard sample of the goods. Holliday, Wise & Co. sent us a good sized but smaller sample with the following letter:

Manila, P. I., Oct. 13, 1908.

Dear Sir:—We are in possession of your favor of 28th August and in reply to same have pleasure in enclosing a sample of the cloth in question, which you will find is the well known "Wigan" of Messrs. Spinner & Co. The price you quote is correct (14 2/3 cents a yard).

We have before us a copy of an article presumably taken from your August number and would like to call your attention to the misstatements contained in it. We are not aware that the makers of "Wigan" and "Stockport" khaki claim that their drill is much better than the American make, but it is considerably cheaper and to say the least quite as good. The chief point and the one more or less overlooked in your article is the question of dye, and it is this that makes Spinner's khaki without competition in the world.

Leemann & Gatty's dye is absolutely fast and no other khaki dye is that, least of all the American. Could you but see the different dyed cloths in use, as we do in these islands, we think you would be convinced as to the absolute superiority of either "Wigan" or "Stockport." More certainly would this be the case did you happen to be an officer with a pride in the appearance of your men. Judging from your article you do not know that this cloth is not made into uniforms by "coolie labor." The contractor for this part of the work employs Filipinos entirely. You base your article on a price of 19 cents and contract was actually let at 14 2/3 cents.

You have thus a cloth of excellent quality which experience has adapted to the needs of the tropics, of absolutely fast dye and about 40 per cent. cheaper than the American make, and yet you blame your purchasing officers for using it.

Yours faithfully,

Holliday, Wise & Co.

The statements in our August article that Holliday, Wise & Co. call into question are those referring to the quoted price of the British cloth and to the kind of labor used in making the uniforms. When the New England manufacturers discovered last June that contracts had been let for British khaki it was stated that the uniforms were made up at Manila by Chinese labor. This was our authority for the use of the word "Chinese," and no reference was made to "coolie labor." We have no doubt Holliday, Wise & Co. are correct in stating that the uniforms are made up by Filipinos, but that has not the remotest bearing on our objection to the contracts for British khaki and for making the uniforms. Our objection is to the purchase of foreign goods and the employment of foreign labor for making uniforms for United States soldiers. Whether the foreign labor so employed is Chinese, Filipino, Japanese, British, German or of other nationality makes no difference. The objection is based on the fact that it is cheap labor employed outside of the area protected by the Dingley tariff. It is unnecessary to restate the grounds for this objection, as our August article was so clear that there is no excuse for any misunderstanding.

The prices we quoted were obtained from the War Department at Washington and, as explained in the beginning of this article, are correct for the khaki bought in 1907. That was before the contracts for British goods were discovered here and before American manufacturers had lodged a protest against them with Secretary of War, now President-elect, Taft. As will be seen

farther on, the June, 1908, contract with Holliday, Wise & Co. was for the same grade of British khaki as had been bought last year for 19 cents a yard. We are not going to enter into any guessing match as to why the price on Wigan No. 2 was reduced from 19 cents in 1907 to 14 2/3 cents in 1908. It may have been due to the business depression that began with the October panic of last year, or it may have been brought about by the clamor raised in this country over the contracts. Be that as it may, we have to deal with the fact that the price was reduced to 14 2/3 cents a yard. Now before going any farther let us analyze the two samples of Wigan No. 2 received from Holliday, Wise & Co. and from the Quartermaster at Manila, and also a third sample of American make, made of single yarn throughout, which was offered at 16 cents a yard to the War Department at Washington and rejected some months before the contract was awarded to Holliday, Wise & Co. The results of the analysis are as follows:

5. Sample of Wigan No. 2 from Holliday, Wise & Co. Delivered on present contract at 14 2/3 cents a yard:
Weight, 6.3 ozs. per yd., 28 in.
Warp, 93 ends per inch, single 14s yarn.
Filling, 54 picks per inch, single 10.4s yarn.
Sizing, none.

6. Sample of Wigan No. 2 from the Quartermaster at Manila. Delivered on present contract at 14 2/3 cents a yard:
Weight, 6.1 ozs. per yd., 28 in.
Warp, 94 1/2 ends per inch, single 14.3s yarn.
Filling, 52 1/2 picks per inch, single 10.9s yarn.
Sizing, none.

7. Sample of American khaki offered to the War Department at 16 cents a yard and rejected previous to June, 1908:
Weight, 8.1 ozs. per yd.
Warp, 89 ends per inch, single 11.7s yarn.
Filling, 50 picks per inch, single 8s yarn.
Sizing, none.
[All sizes are for the yarn as it lies in the cloth without allowance for take-up.]

Nos. 5 and 6 are practically alike, the differences in weight and set being such as would easily come within the ordinary variation of such goods. Accepting No. 5 as the British standard we will next reduce the price to a pound basis with the following result:

No. 5 Wigan No. 2, bought at 37 1/4 cents a pound.

No. 7 American, offered to the U. S. Government and rejected at 31 5/8 cents a pound.

The set (threads per inch) is practically the same in both fabrics, but the American cloth is nearly 2 ounces heavier than the British. And yet the American cloth was offered to the War Department at Washington for 31 5/8 cents a pound, and rejected; while the British cloth was bought by the Manila authorities in 1907 at 48 1/4 cents a pound, and in 1908 at 37 1/4 cents a pound without the details of the last contract having been approved or even made known at Washington. It is no answer to say that the British goods were better suited to the tropics because lighter. American manufacturers have stood ready to make a fabric of any weight desired. These facts call not for comment by us, but for a thorough investigation by some one with sufficient authority to locate the responsibility for such discrimination against American goods.

THE KHAKI DYE.

In their letter Holliday, Wise & Co. lay great stress on the color of the goods, claiming that the British color is the best in the world, and that the American is the poorest. The color of the khaki cloth had not been brought into question when our August article was written, hence no reference was made to it. Since the glaring discrimination against the American fabrics was exposed an effort has been made to shift the discussion to the question of fastness of color. If the American shade was inferior the proper course for the War Department to take was to call the attention of American manufacturers to the defect and ask them to duplicate the British fabric in every respect. This was not done. Instead the War Department at Washington doggedly insisted on having American manufacturers comply strictly with certain rigid specifications as to weight and set of cloth, and allowed Gen. Leonard Wood and the other military authorities at Manila complete freedom to buy the fabric that the British contractors had for sale, without requiring them to submit the specifications as to fabric or price to Washington for approval. The difference in the con-

struction of the two cloths would as a matter of course affect the fastness of the color. Neither Leemann and Gatty nor any other dyer can obtain as fast a khaki shade on heavy and closely set cloths like the American khaki, Nos. 3 and 4, as they can obtain on a light and slazy cloth like the British khaki, Nos. 1, 2, 5 and 6 (for Nos. 1 to 4, see August issue). If the American dyers should fail to produce a khaki color which is all that is desired, let them have a chance to try until they do succeed. That would be but repeating the experience of English dyers who failed at first and have apparently succeeded now in getting on a slazy cloth a shade satisfactory to the U. S. authorities at Manila.

No one is more desirous of holding the American manufacturers and dyers of military khaki to a high standard of workmanship than we are. No officer has a greater pride in the appearance of American soldiers than we have. But we also have a pride in the standard of living among American working people, and for this reason we have protested against the unfair and stupid if not corrupt discrimination against American khaki by the War Department at Washington.

A Reunion of Delegates to the Atlanta Cotton Conference.

Evidence of the good results following the Atlanta Cotton Conference of 1907 was supplied last month at Manchester by a reunion of the English delegates. There was, of course, a banquet; after that came speeches in which the state of the trade was discussed and the benefits of cooperation emphasized. Such a reunion is proof that our English friends retain pleasant memories of their visit to this country and their attendance at the great cotton conference. It is likewise very gratifying to be able to state that the English and Continental Cotton Associations have appointed representatives on the International Cotton Committee which was authorized by the Atlanta Conference. We are informed that the completion of the committee now awaits only the appointment of representatives by the cotton growers' associations. When they are named the International Committee will be ready for business.

Philippine Weights and Measures.

Two years ago, in January, 1907, we called attention to a decree issued in the preceding August at Manila by the Philippine Commission, and providing that after January 1, 1909, the only legal weights and measures in the Philippines shall be those of the metric system. Penalties were provided for the use of any other weights and measures after that date. At the same time we stated as a fact, rather than predicted, that "the metric order would be a dead letter from the start." The following editorial from the "Manila Times" of Oct. 30, 1908, shows that the impossibility of enforcing the decree has been discovered before the date, Jan. 1, 1909, on which it was to go into effect:

> There is a growing tide of objection to the enforcement on January first next of the new system of weights and measures adopted by the government about a year ago and it is very probable that it will culminate in a movement and petition for delay. Two important objections are at this time being urged and it appears to us that they are worthy of serious consideration. The first is that the common people have not been in any respect made ready for the important change involved and the second that the mercantile and trading community should not at this time be called upon to make the financial outlay necessary for new equipment. The new system is in partial use and the officials of the central government declare the municipal governments have been using it in a very satisfactory manner for some time. We doubt, however, that the planters and small producers know anything about it and that a quick change would greatly operate to their confusion and disadvantage.
>
> It is also true that the merchants are not at this time prepared for the expense of the change. They have had a bad year and cannot well afford at this time to lay out the money that the change would make immediately necessary. Some idea of the extent of the expenditure involved can be gained from the fact that an estimate prepared by one firm showed that it would cost 10,000 pesos to effect the change. That figure probably represents the extreme of cost, but when all, great and small, have been included the grand total is a very large one. If times were prosperous this would hardly be a serious consideration, but unfortunately these are days when the pesos must be watched.
>
> It is very true that as far as weights and measures are concerned the Philippines are in a very chaotic state and that there exists a crying need for reform, but the writer is not so sure that we should have swallowed at a gulp the scientific sys-

tem of continental Europe. There are in the Orient certain general standards of weight that are quite generally understood and that work very satisfactorily. These might have been retained and, as well, there might have been some use of the good old system that has done so well for Great Britain and the United States for ages. The United States has had ample opportunity to examine and try the scientific system of Europe and the only footing that it has obtained is that its use has been made optional.

However, we may be committed and the important question now is, would it be advisable in view of all the circumstances to enforce the law with the close of December? Personally, we do not believe that it would be.

The metric system was introduced into the Philippines on July 17, 1849, over fifty-nine years ago and is but little more now than what it was on the day it was introduced, an official system that the people generally do not use. The old Spanish system is still in common use along with English, Asiatic and to some extent the metric standards, the mixture resulting in what is described as a chaotic condition. There is only one remedy for the confusion, only one way by which uniformity can be reached. It is to abolish the official metric system which the people will not use, introduce and extend as rapidly as possible the British system and unify the British and old Spanish systems by standardizing many of their units which now vary but little from each other. Here are some of the important Spanish units that are practically the same as certain English units and which can be made the same by a little patience and common sense:

Weight.

Spanish pound	=	1.014	English lbs.
Spanish ounce	=	1.014	English ozs.
Spanish quintal	=	101.400	English lbs.
Spanish arroba	=	25.400	English lbs.

Area.

Spanish braza	=	30.08	English sq. ft.
Spanish loan	=	3,008.00	English sq. ft.
Spanish bolita	=	30,080.00	English sq. ft.
Spanish quinon	=	300,800.00	English sq. ft.

The Spanish measures of length and capacity vary materially from the British, but there is a marked similarity in the method of dividing the units. Thus the Spanish cavan, ganta, chupa and apatan are the result of successive halving as in the case of our gallon, quart and pint, while the Spanish vara is divided into three feet, and the Spanish foot into twelve inches, as in the case of our yard, foot and inch. The Filipinos are represented as wanting free trade with the United States and it is stated that the authorities at Washington intend to surround the Philippines with the United States tariff when free trade with us is granted to them. That would settle the question of Philippine weights and measures. While waiting for free trade the Filipinos should take the nearest way to reaching uniformity of weights and measures with the United States.

The Textile Trade in France.

Recently issued reports of exports and imports show the extent to which the foreign trade of France has been curtailed as a result of the depression that began in the United States a year ago. The total of exports and imports for the first six months of 1908 shows a decrease of $62,000,000, as compared with a corresponding period in 1907. Of this shrinkage $35,000,000 worth is due to the falling off of exports, 30 per cent. of this being caused by decreased shipments to the United States. The French textile trade has been especially hard hit, as is shown by the following report of textile exports for the six months ending June, 1908, and of the decrease compared with the first half of 1907:

	Exports.	Decrease.
Silk goods	$28,098,800	$11,030,000
Wool goods	22,856,800	1,897,200
Cotton goods	29,142,800	5,839,600
Wool yarn	5,483,600	1,662,600
Millinery	15,733,800	281,000
Lingerie	2,894,200	740,800
Ladies' garments..	8,227,200	1,228,200
	$112,437,200	$22,679,400

An innteresting feature of this exhibit is that while the average loss of textile exports from France amounts to 20 per cent., the shrinkage in the sales of millinery is less than 2 per cent. This may be taken as an indication that the people of other countries go without clothing of French manufacture rather than be deprived of the creations of Paris milliners.

The Revision of the Tariff.

As Seen at Washington by the Editor of the Textile World Record.

The Committee on Ways and Means of the House of Representatives is composed of nineteen members, twelve Republicans and seven Democrats. The tariff hearings before this Committee have all the appearance of proceedings before a law court. The members occupy raised seats behind a continuous desk at one end of a large room. In the center is the Chairman, Sereno E. Payne of New York, a large man with a head in proportion, a kindly face, a most inscrutable smile and the good will of his associates of both parties. Among the Republicans Dalzell, Needham, Longworth and Calderhead are noticeable because of the brevity of their remarks. Most of the questioning on that side of the House is done by Boutell, Hill and Fordney. The Democrats evidently have arranged for an equitable division of the labor of cross examination. Most of the witnesses have appeared in behalf of a maintenance of present rates. Whenever the testimony was considered of sufficient importance the Democrats would take turns at the cross-examination, the last member usually having the advantage because of the exhausted condition of the witness.

THE COMMITTEE IS IN EARNEST.

An observer of the proceedings is impressed by the earnestness of the Committee. They are undoubtedly resolved to do their duty faithfully. They attend regularly and, considering the irksomeness of the task, pay fairly close attention to what is going on. Of course they are all playing politics. And after all is it not right that as representatives of a self governing people, they should? They have their ears to the ground and work like men who will have to get their tenure of office renewed in 1910.

The observer soon discovers that the prevailing sentiment among the members of the Committee is for as much tariff revision downward as can be safely granted. Of course all the Democrats are outspoken in this regard. The Republicans express the same idea as unmistakably, though not as loudly. Even the Republicans who say little or nothing, plainly convey the impression that they are under pressure, and that they believe the trend is towards revision downward.

HEMP, JUTE AND FLAX.

The first day of the textile hearings was devoted to hemp, jute and flax schedules. A. V. Phillips, of Boston, appeared as the representative of the burlap bag manufacturers of the country. The raw material is woven burlap, nearly all of which is now imported. His idea of tariff revision was a reduction of the duty on bags and a still larger reduction on burlap, thus increasing the amount of protection to the bag manufacturer, but making it possible to reduce the cost of the bag to the consumer. He was followed by Everett Ames, a bag manufacturer of Portland, Oregon, who also wanted the differential increased. C. Lee McMillan appeared in behalf of the New Orleans Cotton Exchange to ask that jute bagging for covering cotton be placed on the free list.

W. Wickham Smith, a New York lawyer, made his first appearance at the textile hearings as the representative of importers who want the duty reduced on jute mattings and oil cloths. He talked like the paid attorney that he was and left the impression that an appeal at a tariff hearing should be made by the principal and not by a paid agent. The latter is likely to fall down on cross examination as he lacks the practical knowledge necessary to meet the wide range of questions fired at him by friendly and unfriendly members.

George F. Smith appeared as the representative of twenty-four firms to ask that the raw flax, hemp and jute schedules remain unchanged, the rates on single yarn be increased and those on cordage be lowered. The wants of the American growers of hemp were stated by Hamilton Scott, of Lexing-

ton, Ky., who asked that the present rates on the raw material remain as they are.

W. Wickham Smith reappeared as the attorney of forty-eight New York importers to ask that the duty on lace and embroidery be reduced. His cross examination developed the fact that the Democrats were disposed to favor the retention of duties on luxuries like laces and embroideries. The impression made on the Committee by Mr. Smith's argument is shown by the following dialogue:

Mr. Clark. If the American article is as good as the foreign article or better, and they sell it cheaper, what is the reason the domestic article does not drive the foreign article clear out of the market?

Mr. Smith. Because, Mr. Clark, the American article is made here, as you can see, to copy the foreign article, and the industry is not yet sufficiently developed in this country for them to have a force of designers and creators to get up styles and patterns; and they are at present confining themselves to just such things as this. (Exhibiting sample.)

Mr. Clark. As I understand it, you present the most remarkable case that has been presented before this committee, and that is, in the first instance, that 80 per cent. of all the laces that are used in the United States are imported and that they pay revenue to the extent of some twenty-five or thirty or forty million dollars; in the second place, that our people can make better lace than the foreigners, and undersell them in the American market——

Mr. Dalzell. And in the third place, that it is going to develop the industry by reducing the duty. (Laughter.)

Mr. Clark. Now, if those facts are true, I can not understand, to save my life, why these people who have been making 3 1/2 per cent. on steel and less that on lumber, and so on all down the line, do not stop that business and go to making laces and drive these foreigners clear out of the country. (Laughter.)

Isaac Weingart, of New York, who has an interest in a lace business at St. Gall, Switzerland, followed with an appeal for lower duties. He got tangled up in the attempt to prove that reducing the duty will help to develop the American industry, as the following passage shows:

Mr. Clark. How long will it take, under the present conditions, for the American lace manufacturers to drive these foreign manufacturers out of the market?

Mr. Weingart. Under the present duty?

Mr. Clark. Yes.

Mr. Weingart. Just as long as it takes them to develop the incidental manufacturing accessories to the business. It is not only the machine work, but it requires, beside that, some other finishing work.

Mr. Clark. Well, go on in your own way. The more I ask, the less I know. (Laughter.)

The Chairman. This is a real infant industry that you are talking about now—lace making. It is only 8 years old.

Mr. Dalzell. And you are going to develop it by reducing the duty?

Mr. Weingart. We do not claim that we can do it by reducing the duty; but if we let the duty stay where it is we will develop a protected industry which will be able to undersell the imported article at a lower duty than 60 per cent.

Mr. Dalzell. Then you are for maintaining the present duty, are you?

Mr Weingart. No; we are for reducing the duty to 50 per cent. I say if you reduce the duty to 50 per cent. you will, nevertheless, foster the industry.

Mr. Dalzell. By increasing the importations?

Mr. Weingart. I did not say by increasing the importations. The result of a reduction of the duty will first be to increase the importations; but you can not build up an industry such as the lace and embroidery business over night. It takes years and years to build up an industry in a foreign country. The industry has grown abroad, and it will grow here; but it can not grow over night. It will take several years to do it.

Robert Dornan, of Philadelphia, asked that the duty on Chinese straw matting be increased in order to protect the manufacture of ingrain carpets. He claimed that the present duty was wiped out by reason of the depreciated silver currency of China.

AN INFANT INDUSTRY APPEARS.

John Boyd and John P. Woitz, two New York importers, wanted the duty on Chinese matting reduced and found no hardship in silver currency. After them came R. H. Sawyer, of Malden, Mass., with an infant industry, that of manufacturing straw matting in the United States from American straw. The infant cried lustily for protection, or rather Mr. Sawyer cried for it, and got the whole Committee interested in samples of American straw and matting. The hour of adjournment found Democrats and Republicans gathered in a group looking at the infant represented by straw grown in Texas, and matting woven in Kennebunk, Maine.

SILK GOODS.

Tuesday's hearing began with the reading of a statement on the silk schedule by F. W. Cheney, of South Manchester, Conn., who represented a committee of the Silk Association of America. He made an excellent impression because of his moderation and the disposition he showed to meet the Committee

on Ways and Means half way in the work of satisfying what is believed to be the popular demand for a reduction of the tariff. The following extracts are from Mr. Cheney's statement:

Our committee has earnestly endeavored to harmonize the views of the domestic manufacturers and the importers of silk goods. We have hopes of being able to bring about the cooperation of both parties to secure substantially the recommendations as to rates of duty required under the new tariff, but it requires more time than we have at our disposal to bring about such an agreement to report to you today.

We are earnestly trying to make the duties, so far as practicable, specific and only to resort to ad valorem rates in cases where specific duties can not be applied equitably. Ad valorem rates are theoretically the fairest ones, but many years' experience has proved that they can not be collected because of undervaluation, and they lead to the demoralization of the import trade and give unfair advantages to unscrupulous importers.

A severe cut in the tariff rates on silks will be followed immediately by a cut in the wages of the workers in the silk mills who are in no way responsible for the economies which will be forced upon their employers. They have already suffered enough during the panic year we have just passed through and can ill afford to be subjected to further losses.

It is our intention to cooperate with you in any way in our power to facilitate the revision of the tariff, and to do so with as little delay as possible. If you wish us to furnish in detail the rates of ad valorem and specific duties to be applied we will prepare them.

We are not here to protest against anything, and will accept whatever your honorable body desires.

We respectfully request more time to work out our figures before finally submitting them to you. We will have them ready by the time you really require them. Our present wish is to encroach as little as possible on your valuable time and to do nothing that can be construed as obstructive or not responsive to your investigations of existing conditions.

Charles A. Ernst, of Lansdowne, Pa., met with a very favorable reception when asking for a 30 to 37 per cent. increase in the duty on artificial silk. He was followed by A. S. Wartzfelder, of New York, who wanted an increase in the duty on artificial silk braid in order to protect the domestic manufacturer against foreign competition. The Southern members on the Committee became greatly interested in artificial silk when they were told it would mean an increased consumption of cotton.

WANTED A TARIFF ON RAW COTTON.

The consideration of the cotton schedule began with an appeal by Congressman Frank Clark, of Florida, for a duty on Egyptian cotton to protect the growers of Sea Island cotton. The reasons advanced for this request were as follows:

First, I submit, Mr. Chairman, without in anywise discussing or even infringing on the relative virtues of a "protective tariff" and a "tariff for revenue," that the recent election and other elections preceding it have, in my opinion, forever established as a part of our system of government the indirect scheme of taxation, viz, the levy and collection of customs duties on articles imported into this country from foreign lands. This being true, I am firmly of the opinion that this matter ought to be removed from the domain of partisan politics and hereafter treated as a business proposition, and a commission or other proper tribunal created to deal with it.

Second, I construe the verdict of the American electorate in the recent national contest to mean that the majority desired the dominant political party to "revise the tariff," and I recognize that the responsibility for results is with the majority.

Third, believing that as long as the policy of levying and collecting customs duties on imports is to be maintained by the United States, the people who are forced to bear the burdens of this system of taxation should be allowed to reap some of the benefits which flow from it, myself and my associates are here to ask and to urge that this committee, in its work of revision, will place a reasonably fair and proper duty on all Egyptian, West Indian, and other such long-staple cotton as is imported into this country from Egypt, West Indies, and other foreign lands, and which are competitors in the markets of the United States with the sea-island cotton grown in the States of South Carolina, Georgia, and Florida.

This cry from the South for protection irritated the Democrats on the Committee, and, while they avoided an encounter with Mr. Clark of Florida, they savagely attacked his expert witnesses. Champ Clark pitched into one of the experts, W. W. Webb, a grower of Sea Island cotton at Hahira, Georgia, and got badly worsted in the encounter, as the following passage shows:

Mr. Clark. How much corn do you raise to the acre on that land?

Mr. Webb. Well, according to the amount of fertilizer we put on it.

Mr. Clark. Putting a reasonable amount on it; the amount you did put on, how much corn did you make?

Mr. Webb. We can make, by putting $10 of fertilizer to the acre, from $10 to $12 or $15 worth of corn. (Laughter.)

Mr. Clark. How many bushels of corn do you raise to the acre?

Mr. Webb. Our average is 10 bushels.

Mr. Clark. Well, did you make money raising corn?

Mr. Webb. No; we did not.

Mr. Clark. Do you make money raising this cotton?

Mr. Webb. We could if we could get what we wanted.

Mr. Clark. If somebody would make you a present of a lot of money and you would call that raising cotton, you would make money?

Mr. Webb. We would appreciate it very much.

Mr. Clark. Why don't you go to raising something on that land that you can make money on?

Mr. Webb. If you will inform us what we can raise, perhaps we will.

Mr. Clark. Why don't you give the land away, then, if you can't make money on it at all?

Mr. Webb. A poor home is better than none.

Mr. Clark. There is plenty of good land in the United States that you can get for entering.

Mr. Webb. If we could get to be Congressmen we might be able to get it. (Laughter.)

Mr. Clark. You think it is a lucrative job to be Congressman, do you?

Mr. Webb. It seems to us it is a very easy matter. (Laughter.)

Mr. Clark. Why does it seem so to you?

Mr. Webb. Because we can not see anything that he does. We are asking him to do something now.

Mr. Clark. You want Congress to give you something. Now, give a reason why Congress should give you 10 cents a pound on long staple cotton?

Mr. Webb. Because it has protected other interests, and if it is going to protect the manufacturers——

Mr. Clark. Suppose they turn the thing around the other end foremost and take off the protection on some of those things, how would that strike you?

Mr. Webb. That would be better for us; it would be more equal.

Mr. Clark. Why didn't you come here and honestly ask that, if you are being skinned by this tariff system, you would like some of the tariff to be taken off?

Mr. Webb. Because we are not going to lie about it. (Laughter and applause.)

Mr. Clark. I want to make a remark to you, gentlemen. If you think you can yell me down, you have struck the wrong man. I make that remark to apply to some of the members of this committee as well as these men back here.

It takes a good man to get the best of Champ Clark, but Mr. Webb, of Hahira, did it easily and with unbounded good humor. William B. Lamar, another Congressman from Florida, also joined in the appeal for a duty on Egyptian cotton.

H. F. Lippitt, of Providence, R. I., presented the case for the cotton cloth manufacturers. His request was in part as follows:

The business is not a monopoly. It has not shared in the present tendency to combinations that some people find objectionable. While some plants have shown a continuous and healthy growth, the business is still carried on as from the beginning by a large number of unconnected plants distributed over a large territory and owned by many people. The form of the present cotton tariff is the result of many efforts, and considering the wide variety of products it covers has stood the test of practical operation fairly well. It has been the object of many legal attacks, in the course of which the terms used have for the most part been given careful legal definitions, and therefore should not be disturbed. Some minor features, however, are still in controversy and may need elucidation, but the present cotton situation as a whole has resulted in establishing in this country a great industry, widely distributed, employing many people and much capital. It has regulated but not prevented importations, has made moderate profits and reasonable wages possible to the capitalist and laborer, but is not a bonanza.

We ask, therefore, that the present schedule shall not be materially changed, and that cotton manufacturers be allowed to continue the operation and further development of this important industry under the same tariff conditions that now prevail.

Samuel Ross, of New Bedford, Mass., and Albert Hibbard, of Fall River, Mass., followed and, as representatives of the textile operatives, asked for the maintenance of protection on cotton goods. Next came an unusually able address by D. A. Tompkins of Charlotte, N. C., who held the attention of the Committee and spectators while he argued for tariff protection to the cotton manufacturer and, if necessary, to the grower of cotton. We regret that lack of space prevents our giving Mr. Tompkins' address in full. It was the practical and honest appeal of a practical and honest man for protection. The questions from the Democrats helped Mr. Tompkins to make his argument even stronger. R. M. Miller, Jr., of Charlotte, N. C., also made a very effective argument for the continuance of protection to the cotton industry.

WOOL AND WOOL GOODS.

Wednesday's hearings were on wool and wool goods. Theodore Justice, of Philadelphia, in a long statement advocated the retention of the present rates on wool and wool goods. He wore a suit of clothes bought in Philadelphia for $12.50, and called attention to the garment as a striking illustration of the low cost of wool goods to the consumer. He compared the price with the higher price of a suit he had bought in Florence, Italy, some time ago, and seemed to think the comparison a conclusive demonstration of the benefits of protection. His

logic did not satisfy Mr. Crumpacker of Indiana, who wanted to know why a high protective duty was needed if the American goods were cheaper than the foreign product. Mr. Justice failed to give a satisfactory answer and became hopelessly involved in a wilderness of statistics and exhibits relating to all branches of the trade from the growing of wool to the making of the garment. One thing this witness did make clear was the folly of trying to prove too much. He was followed by ex-Congressman Grosvenor of Ohio, who appeared as the attorney for the wool growers of Ohio. He brought out no new facts or arguments and wasted considerable time by sparring with various members of the committee, who showed him great deference because of his long and honorable career in the House.

The next witness was William Whitman of Boston, Mass., who stated that he represented the National Association of Wool Manufacturers, the National Association of Woolen and Worsted Manufacturers and the Manufacturers' Club of Philadelphia. He read a carefully prepared statement, and asked that the tariff schedule relating to wool and wool goods remain unchanged, except that wool top be classed as yarn. Following is the part of the paper in which his recommendations are made:

It is undoubtedly true that certain classes of imported wools, used very largely in this country, are not grown here and cannot be grown to advantage. It is equally true that some foreign wool used in this country is superior for some fabrics to home-grown wools; but we also believe it is true that all imported wools compete either directly or indirectly with American wools. The considerations I have mentioned appear to us to be relatively insignificant compared with the importance of maintaining a national industry based upon home-grown wools made into products having the especial characteristics of such wools. While I believe American wools are capable of being greatly improved, yet in my judgment even as they are now they are the best wools grown in the world for use in clothing our people.

We ask that wool tops, a semi-manufactured article, now dutiable under the blanket clause, of Paragraph 364 in Schedule K, covering all manufactures of wool not specially provided for, be transferred to and specifically made dutiable under Paragraph 365, relating to yarns. This is a reduction of duty, but we believe that the change will leave sufficient protection.

We do not ask for any increase whatsoever in any of the duties now protecting the manufacture of wool, for we regard the present schedule as the most satisfactory ever drawn, and the present protection as adequate for the best interests of the industry. In expressing our content with existing rates in the schedule, it is with the distinct understanding that the customs administrative law shall be strictly enforced.

MAKING A TARGET OF THE WOOLEN SCHEDULE.

Questions began coming from several members as soon as the witness had concluded and in nearly every case indicated pronounced opposition to the present tariff on wool and wool goods. Mr. Crumpacker called attention to the duty of 165 per cent. on cheap blankets imported in 1907 and asked if Mr. Whitman thought a duty of more than 100 per cent. was necessary on such goods. Other members, including Gaines, Cockran, Griggs, Randell, Pou, Underwood and Hill, showed an interest in various duties, ranging from 89 to 177 per cent. on imported wool goods, and wanted to know Mr. Whitman's opinion about such high rates. The general tenor of his replies was to the effect that the high duties made goods cheap to the American consumer because the American manufacturer was able to sell for less than the price of the foreign goods duty paid. Mr. Whitman explained:

"Gentlemen, there is nothing so deceiving as percentages."

THE COMPENSATORY DUTY.

The cross examination continued on this line for several hours, the Democrats yielding with suspicious alacrity when a Republican wanted to try his hand, and taking turns in continuing the grilling process when the Republicans were quiet. Chairman Payne, at one point, asked Mr. Whitman if the latter thought that the compensatory duty on wool goods at the rate of four pounds of wool to the pound of cloth was not excessive in the case of light shrinking wools, such as those losing 15 to 25 per cent. in scouring. Mr. Boutell wanted to know whether there was any trust agreement or understanding in the trade. Mr. Whitman said there was not. The Chairman then offered in evidence a letter from Edward Moir, of Marcellus, N. Y., stating that he (Moir) attended a joint meeting of wool growers and manufacturers at Boston about a month before the recent elec-

tion; that Mr. Whitman was called to the chair, and that against the protest of the writer (Mr. Moir) a resolution was adopted by which it was agreed to act in concert in supporting the schedules of the present law. Mr. Clark wanted to know if that did not mean an agreement or understanding, and Chairman Payne offered to give the witness an opportunity to prepare and present an explanation of the matter at the session on the following day, an offer that was declined.

MR. BOUTELL WANTS INFORMATION.

Mr. Boutell, whose manner shows plainly his sincerity and deep interest in the investigation, suddenly broke into the examination by reading paragraph 364 of the Dingley law, which is as follows:

364. Wool and hair which have been advanced in any manner or by any process of manufacture beyond the washed or scoured condition, not specially provided for in this Act, shall be subject to the same duties as are imposed upon manufactures of wool not specially provided for in this Act.

He then asked Mr. Whitman to explain the object of that paragraph, as it seemed to him extraordinary that any treatment of the wool, even so slight as taking it out of the bag and tying it into bundles should subject it to the full rate of duty imposed on fully manufactured cloth. To this Mr. Whitman made a reply that the paragraph was probably intended to prevent fraudulent importations under the wool schedule. This failed to satisfy Mr. Boutell, who asked for a statement of the first stages of worsted manufacture up to combed top. Mr. Whitman explained these processes. He said he was a very large manufacturer of worsted top, but denied that he monopolized the business.

CHAMP CLARK ASKS SOME QUESTIONS.

The questioning, or rather grilling, as it has been more generally and correctly designated, had now continued for nearly four hours, one noteworthy feature having been the almost unbroken silence of Champ Clark, of Missouri. He sat back in his chair with his eyes open and said nothing. In view of his willingness or rather eagerness to share the burden of cross-examining witnesses, this silence gave rise to the fear that he was indisposed, when suddenly he took a hand in the cross-examination and after some preliminary questions, exclaimed:

"Didn't you have anything to do with making these woolen provisions? and isn't it true that your regular working place in getting these things into the tariff is not before the Ways and Means Committee of the House, but in the Senate?"

"I know what you have got there before you," replied Mr. Whitman.

"And I know what I have got myself," replied the Missourian, "and we will have it out here and now. The Dingley bill was in the House two weeks, as I recall, and went to the Senate. When it emerged from that body it had about 600 amendments. Did you make those woolen schedules?"

"No," was the reply.

"Did Mr. North?" asked Mr. Clark. "And how did he get on the Finance Committee? Did you put him there or did your association? And did you not give him elaborate directions as to what he should do?"

"Not elaborate," was the reply. "He was to come and tell what he knew, and he got my consent to do so."

"I know on what you are basing your questions. The father of that paper you have in your hands sued a man for libel. I was summoned as a witness and Moorfield Storey got the court to issue an order directing me to surrender all my books and private correspondence. Those letters were stolen, copies made, and now they are published here. It is an outrage. I characterize it as the dirtiest and most despicable trick I ever heard of."

"This pamphlet," said Mr. Clark, "is issued by Frank P. ——"

"Yes, I know," interrupted Mr. Whitman, "Frank P. Bennett of Boston."

"As I understand it," interrupted Mr. Cockran, "the letters were not stolen, but are a part of a public record."

"Now let's get down to brass tacks," exclaimed Mr. Clark. "Isn't it a fact that you had more to do through an agent with the McKinley and Dingley schedules on wool than any other man on earth?"

"I had very little to do with the Dingley bill," said Mr. Whitman. "I was ill at that time."

"As a matter of fact," returned Mr. Clark, sarcastically, "isn't it a fact that the time for your extraordinary activity on this tariff bill has not yet arrived?"

"That is not fair," replied Mr. Whitman.

"The place where you get in your good work is in the Senate, isn't it?" persisted Mr. Clark.

"No," replied Mr. Whitman sharply.

"Well, isn't it a fact that you took a hand in cutting and carving the Wilson-Gorman bill after it got to the Senate?"

"I did not cut or carve the bill."

"Well, didn't you make suggestions how it should be worded?"

"Undoubtedly I did make some suggestions."

"The Wilson-Gorman bill was cut and carved in the Senate," continued Mr. Clark. "Didn't you make up the schedules on wool?"

"Practically none of them," replied Mr. Whitman.

"Did North?"

"I think, perhaps, he made some suggestions," replied Whitman.

"How did he get into the Senate?"

"I don't know."

"Now isn't it a fact that you made North a present of $5,000 after he left his Senate job?" asked Clark.

"I did not make the present personally," said Mr. Whitman. "It was made by the association in appreciation of the fact that he had been underpaid while acting as secretary of the organization, and the money was to make up arrears."

"Is it the usual practice for woolen manufacturers to make presents to their employes after they become aware that past salaries were insufficient?"

"A present of money, the amount of which I have forgotten, was once paid to John L. Hayes, a former secretary of the Wool Manufacturers' Association," was the reply.

It appears from the pamphlet placed on record by Mr. Clark, that when the Dingley bill was pending Mr. North, secretary of the National Association of Wool Manufacturers, was appointed clerk of the Finance Committee of the Senate, without salary. Copies of letters that passed between Mr. North and Mr. Whitman at that time were read.

After Mr. Clark finished his examination Mr. Whitman left the stand.

On Thursday Andrew J. Solis, of Boston, made an appeal for lower duties on wool and a correction of the inequalities of the wool and woolens schedule, which he claimed worked great hardships on various branches of the trade and on the consumer. He met with a very friendly reception from all the members of the Committee except Fordney, of Michigan. Mr. Solis' frankness and conservatism made a very favorable impression. Although protesting strongly against the present schedules he cautioned the Committee against hasty and ill-considered action. At the close of his examination Mr. Boutell requested him to prepare for the Committee such a schedule as he believed is required.

We have given a somewhat detailed account of the hearings on the textile schedules before the Ways and Means Committee in order that our readers may have as clear an idea as possible of the exact situation at this time, and the attitude of the committee. We hope it will convey in some degree, if not fully, the truth which is clear as noonday to every observer at Washington, that the tide has set strongly toward a revision of the textile schedules downward. The hearings strengthened this trend and it is far better for all concerned to realize the facts and act accordingly.

The protectionist party is in power, but the controlling influence is the demand for honest protection. We gave expression to this idea in the comment on the election, which appeared in our November issue:

> As far as the textile trade is concerned and indeed as far as the American people are concerned the revision of the tariff is the most important political question awaiting solution. And it is of the greatest importance to the textile trade as well as to the people that the question should be settled right. By this we do not mean that the revision must be perfect. No tariff law ever was or will be perfect. By settling the question right we mean a protectionist revision in broad daylight and free from the subterranean influences that have too often influenced former revisions of the schedules.
>
> A protective tariff is essential to the welfare of the American people. It maintains in this country a high standard of living by protecting our people against competition with foreign producers whose only advantage in trade results from low wages. If carried out in accordance with this principle the protective policy needs no excuse. It would be a great mistake, however, for protectionists to ignore the fact that it has not always been so carried out. Too often the legislators, lacking the knowledge, training and energy necessary for determining how the tariff schedules should be adjusted, have allowed such adjustment to be made by representatives of special interests. The result has been to create a public opinion that the tariff is a tax on the many, imposed and maintained for the benefit of a few.

It is of the greatest importance that the textile trade, and in fact every trade, should awaken to the fact not only that that comment embodies the right principle of tariff revision, but that the public is resolved that this principle must be applied without fear or favor. He would indeed be a dull student of the history of the past few years who thought that any other than an honest revision of the protective tariff in 1909 would be tolerated by the American people. And he would indeed be a poor protectionist who would be willing that a tariff should be framed for the protection of special interests. This is not the time for anyone to stand pat on tariff revision. Any revision that is not thorough and honest will expose the protective policy to the danger of being wiped out entirely. At such a time the duty

of all connected with the textile trade is "so evident that it would glimmer through a blind man's eye." It is to rid the textile tariff schedules of every trace of protection for special interests. The general welfare and the equalization of the differences in the money price of labor here and abroad are legitimate objects of a protective tariff. But look at what has been done in the name of protection. Take, for example, worsted top. Here is a statement of the actual labor cost of converting 10,000 pounds of Australian cross bred wool into finished cloth in an American mill. And opposite the cost at each stage of manufacture is the duty levied under the Dingley bill:

	Increase of Labor Cost	Total Labor Cost	Increase of Duty	Total Duty
10,000 lbs. wool	.....	.....	$1100.00	$1100.00
5,600 " top	$184.80	$184.80	1812.00	2912.00
5,040 " yarn	360.36	545.16	36 40	2948.40
4,389 " cloth	942.01	1487.17	538.91	3487.31

It is of vital importance to the American textile industry that such abuses shall be eliminated from the new tariff bill of 1909. and that every rate and classification shall be as near what is required for the public welfare as honesty, patience, intelligence and knowledge can make it. Congress cannot do this alone. The lawmakers, legislative and executive, admit their ignorance of the technical details of our varied industries. Under these conditions the textile manufacturers of the country should come forward, and give the government at Washington the benefit of their knowledge of their respective industries.

On the other hand some system should be at once devised at Washington by which the truth, the whole truth and nothing but the truth necessary for an honest and intelligent revision of the tariff schedules can be sifted out and placed at the disposal of those on whom rests the heavy responsibility of framing the new law. It is only in such a revision that the textile trade can hope for permanent prosperity.

EXPLANATION BY MR. NORTH.

In view of the disclosures at the tariff hearings regarding the part taken by Mr. North and Mr. Whitman in framing the textile schedules of the Dingley bill we give here the following explanation of the matter by Mr. North:

When the Wilson tariff bill of 1894 was about to reach the Senate, Senator Aldrich said to me one evening that he was absolutely without expert clerical assistance in connection with the work of the tariff bill and without any funds to pay for it, and that he urgently desired that I would remain in Washington and assist him while the bill was passing through the Senate. I consulted with the officers of the National Association of Wool Manufacturers, of which I was the secretary, and they consented to Senator Aldrich's request. Accordingly, I remained in Washington during the entire period that the Wilson bill was under consideration in the Senate, occupying a desk in Senator Aldrich's rooms in the Maltby Building. My duties were mainly the care of correspondence, the making of tables, percentages, etc.

When the tariff bill of 1897 reached the Senate, Senator Aldrich made the same request of me, and again, after consulting the officers of the association, I went to Washington. From the date of my arrival until the bill became a law I acted as the clerk or secretary of the sub-committee of the Finance Committee. I was in charge of a number of clerks, who were loaned to the committee by the Treasury Department and the general appraisers in New York. My duties were to handle, acknowledge, brief, and file the correspondence of the committee, which was enormous—sometimes reaching two hundred letters a day—and to prepare such tables and computations as the sub-committee desired.

During the time that the sub-committee was going over the House bill, section by section, I sat with it, reading the old and proposed new rates, paragraph by paragraph. Mr. Arthur B. Shelton, now the clerk of the Senate Finance Committee, alternated with me in this duty. When this was completed, the sub-committee went into executive session, and I was no longer present at its sittings, but I remained in the rear rooms of the suite which the committee occupied, and in which the clerical force was located. I had no knowledge of a single rate on a single article agreed upon by the sub-committee until the night before the bill was reported to the Senate.

On that night Senator Aldrich sent for me and at his dictation from a copy of the House bill, on which he had made notes from time to time and which never passed out of his possession, I wrote out the changes in the bill. When it was completed I took the bill to the Government printing office and read the proof on it as fast as it was put into type. It was about five o'clock in the morning when the work was finished and the bill was reported at noon the same day.

I was never in a position to give any information to anyone regarding the terms of the bill. As a matter of personal protection, however, I wrote President Whitman, as appears from the published correspondence, that he must not expect any information from me in view of my confidential relations with the committee, and he never received any such information.

I told him also that if it should come to my

knowledge that the situation was one that required his attention I would telegraph him and that he "would doubtless have no difficulty in finding out what is the matter." I so wrote because I had already learned that Senators Aldrich, Allison, Platt and Wolcott, the members of the sub-committee, talked with the utmost frankness to all the representatives of manufacturing interests who personally called upon them. They made no secret of their personal views on what they thought the rates of duty on any article should be and they talked to hundreds of people.

As to the phraseology of the woolen schedule, and the rates of duty to be given woolen goods, I was never consulted by the sub-committee, and never communicated with it except in writing. My recollection is that on several occasions Mr. Whitman wrote me suggestions regarding this schedule. They were transmitted to the committee with hundreds of similar suggestions. It is my belief that the wool manufacturers would have been in a much more favorable situation if their secretary had been free to advocate their wishes.

Conciliation in the Cotton Trade.

In this issue we refer to the pressure of public opinion in England to bring the cotton lockout to an end. Soon after this result was accomplished the following letter was sent by Winston Churchill, President of the Board of Trade, to the principal officers of the associations representing the master cotton spinners and the cotton operatives in Lancashire:

Board of Trade, Whitehall Gardens, S. W.,
13th November, 1908.

Dear Sir,—As you are aware, I followed with the utmost concern from day to day the various phases of the recent dispute in the cotton-spinning trade. I greatly rejoiced that an end to the conflict had been reached a week ago, and I congratulate both sides that they were able to arrive at a settlement by direct negotiations with each other.

It has already been officially declared by both employers and operatives that strikes and lockouts are disastrous and ought to be avoided. The Brooklands Agreement appears to have worked admirably—so far as it goes—and hitherto under its provisions many disputes have been amicably settled. But the Brooklands Agreement is in itself incomplete. A supplementary scheme for ascertaining the actual state of trade—such as is generally known as the "sliding scale" or "conciliation scheme"—is its necessary counterpart.

I am aware that during recent years much thought and consideration have been given on the part both of the employers' and of the operatives' organizations to the elaboration of some equitable and practical scheme for attaining this object, and the Board of Trade are in possession of certain proposals which they understand have formed the basis of discussion. While, however, the general principle of such a scheme does not appear to be contested, I understand that it has not been found possible, so far, to overcome altogether the difficulties of detail which stand in the way of the completion of a generally acceptable arrangement.

Feeling that the time has come when an earnest and determined effort ought in the public interest to be made to arrive at a mutually satisfactory agreement for the prevention of future disputes as to wages in the cotton trade, I have decided to invite representatives from all parties concerned to meet me in conference at the offices of the Board of Trade. It would be desirable for both employers and operatives to bring their own accountants. I should propose that the expense of any inquiry that may result from the conference should be borne by the State. Any scheme agreed upon under the auspices of the Board of Trade, while of course in no way binding on the various parties represented, might be confidently submitted for adoption by the several organizations concerned.

I should be glad to learn whether your Federation would be prepared to send representatives to the proposed conference. I am addressing similar invitations to the Amalgamated Association of Operative Cotton Spinners, the Amalgamated Association of Card and Blowing Room Operatives, and the Amalgamated Weavers' Association, and on receiving favorable replies I will at once advise the various parties as to the date of the conference and the number of suggested representatives.

Yours faithfully,
Winston S. Churchill.

IMPORTANCE OF FOREST PRESERVATION FOR MANUFACTURERS.

BY M. V. RICHARDS, Land and Industrial Agent, Southern Railway.

(Before National Association of Cotton Manufacturers.)

The forest areas of the United States affect in some way the welfare of every citizen. To bring this truth home to the people generally and to create a vigorous public sentiment that will demand a national legislative policy for the conservation of our forests is the object of several energetic organizations now at work. Manufacturers are beginning to look upon this matter from a practical and serious standpoint in its relations to their future and are accordingly advocating forest preservation in a more positive manner than heretofore.

There is need, however, of much greater activity on the part of the manufacturing interests to prevent this waste and destruction of one of the greatest natural resources with which our land has been endowed.

If our water powers are to be preserved and further developed; if we are to minimize

the disastrous floods which have descended upon us more frequently in recent years; if we are to store up for use of this and future generations the valuable woods that find their uses in factory and home; if we are to secure as a fixed asset the manifold beneficent effects of our forests, we must bestir ourselves and see that proper steps are taken for the intelligent utilization of the forests and their products. The broad significance of this question makes it one to be dealt with by the State and National Governments, and it devolves upon those whose interests are affected in a larger and more direct way to get behind the movement and use every legitimate means to bring about in every State a system of forest preservation. This is a public question and is entitled to the best thought and endeavor of every citizen and business institution or corporation of each community for its proper solution.

The textile industry cannot afford to wait supinely for others to take the lead. The magnificent water powers which are being rapidly developed and are furnishing increased electrical energy to the cotton mills are dependent upon the vast storage reservoir provided by the forest in order to insure a steady water flow.

The superior advantages of this kind of power have been fully demonstrated by the number of mills and factories that are now availing themselves of the same either by direct development or by contract with large power companies. We realize that textile manufacturing is practically in its infancy when we look ahead to the possibilities of the future. New mills and the enlargement of existing plants will make the demand for electrical-driven machinery an ever increasing factor. The harnessing of our streams for the development of such power is attracting large capital and it is of vital importance that these interests shall neglect no opportunity to insure the permanency of such investments. The stability of the water supply is the life blood of the power plant, and this will surely be adversely affected if the chief beneficiaries do not actively adopt every legitimate means to place our forests under such intelligent supervision as will make them everlasting.

Measuring Color.

We have our scales for measurements and weights, our machines for testing strength and elasticity, our gauges and meters for no end of purposes, but heretofore we have had no reliable instrument for actually measuring color.

Realizing from personal experience the great practical value of such an instrument, Arthur D. Little, the well known chemical expert of Boston, urged Frederic C. Ives to turn his experience in the invention of special optical instruments to the development of a device for measuring color. After nearly two years of experiment Mr. Ives has produced an instrument which meets every requirement of the technical experts.

By its means the color of objects, either transparent or opaque, can be measured by the proportions of the primary colors, red, green and blue, which are necessary to produce the given color. At one end of the rectangular box, some 18 inches long, are three apertures covered by color screens of respectively red, green and blue glass. Each of these apertures is provided with an adjustable shutter, the amount of opening of which can be read upon a corresponding scale. The resulting color, say purple for instance, may therefore be expressed as Red 50, Green 5, Blue 80, or simply as 50, 5, 80 if the colors are always given in the same order.

At the other end of the box is an eye piece and midway a lens in connection with a wedge prism so located that the light from the color screens passes through only one-half of the lens. At this point is also located a mixing wheel consisting of a dozen convex prisms so arranged around its rim that as it is revolved they successively pass through the line of vision. When at rest, either red, green or blue will appear according to the position of the lens. But when the wheel is revolved at the proper rate of speed, the independent colors become so perfectly mixed, because of the persistence of vision, that the result is a single even color. The character of this color may be changed through all the hues of the rainbow by varying the openings of the shutters for the three primary colors. A record may be kept of each opening as read on the scale, and hence the color can be reproduced at any time by resetting to the same scale readings.

Through the other half of the lens previously mentioned, can be seen the color which is to be matched. So it becomes merely a matter of adjusting the proportions of the primary colors thrown on the other half of the lens until both halves are of the same color. Ingenious means are provided for overcoming the effect of the difference in natural lighting, as it is affected by weather, location of instrument, etc.

The first of these instruments was installed some months ago at the Arthur D. Little laboratory, Boston, where its practical usefulness has been displayed in the every day work of a large industrial laboratory. Another is now in use at the Bureau of Standards, Washington.

Cost of Worsted Dress Goods at Bradford, England.

A Report by W. A. Graham Clark, U. S. Special Agent.

The mills at Bradford make a specialty of worsted goods for women's wear; Huddersfield being the center of manufacturing wool goods for men's wear. I sent to the Department some time ago four samples of Bradford fabrics, A1, B1, C1 and D1, accompanied by the details of cost. With this report I am sending four more samples of Bradford fabrics, A2, B2, C2 and D2, with cost statements attached. I had the enclosed samples analyzed by the Bradford Conditioning House, report of which is enclosed. All the samples with the details of cost were furnished to me by one of the largest and most reliable manufacturers of Bradford. They show the general range of goods made by this manufacturer for export to America. The name of the manufacturer who supplied me with the samples and information cannot, of course, be disclosed, but he is a man of high standing in the community and I believe that we can accept his statement as being entirely reliable.

A1. Cashmere, made of cotton and low Botany wool; 65 yards, 42 inches wide; warp, 5 3/16 lbs. yarn; filling, 7 14/16 lbs. yarn.

Cost.

Cost of yarn	$6.00
Weaving wage	.82
Expenses	1.64
Dyeing: Black	1.20
Colors	1.56
Total cost:	
Black	10.14
Per yard	.156
Colors	10.50
Per yard	.162

B1. Cashmere, made of cotton and Botany wool; 67 yards, 44 inches wide; warp, 6 10/16 lbs. yarn; filling, 9 9/16 lbs. yarn.

Cost.

Cost of yarn	$7.62
Weaving wage	1.00
Expenses	2.00
Dyeing: Black	.84
Colors	1.20
Total cost:	
Black	12.08
Per yard	.180
Colors	12.44
Per yard	.186

C1. Sateen, made of Botany wool; 81 yards, 42 inches wide; warp, 23 13/16 lbs. yarn; filling, 12 lbs.

Cost.

Cost of yarn	$17.88
Weaving wage	1.14
Expenses	2.28
Dyeing: Black	2.88
Colors	3.60
Total cost:	
Black	24.56
Per yard	.304
Colors	25.28
Per yard	.312

D1. Serge, made of crossbred wool; 91 yards, 42 inches wide; warp, 19 7/16 lbs. yarn; filling, 15 10/16 lbs. yarn.

Cost.

Cost of yarn	$10.66
Weaving wage	.76
Expenses	1.52
Dyeing: Black	1.80
Colors	2.34
Total cost:	
Black	15.16
Per yard	.166
Colors	15.70
Per yard	.172

A2. Mohair Brilliantine; weight, 4 ozs per yd. 44 1/2 in.; warp, 71 ends per inch, 2/129s cotton, 58 lbs. strength, 4/10 inch elasticity, 41 turns per inch; filling, 66 picks per inch, 1/31s worsted, 52 lb. strength, 7/10 inch elasticity, 8 2/3 turns per inch; chemical test, cotton 25 1/4 per cent., wool 74 3/4 per cent.; cost estimate for 55 yards, 44 1/2 inches wide.

Cost.

Cost of yarn	$10.40
Weaving wage	.48
Dyeing and finishing	1.40
Expenses	.48
Cost per cut	12.76
Per yard	.231

B2. Coating Serge; weight, 4.2 ozs. per yd. 40 inches; warp, 43 ends per inch, 2/38s worsted, 63 lbs. strength, 9/10 inch elasticity, 9 1/4 turns per inch; filling, 40 picks per inch, 1/32s worsted, 30 lbs. strength, 8/10 inch elasticity, 19 1/4 turns per inch; chemical test, all wool; cost estimate for 94 yards, 40 inches wide.

Cost.

Cost of yarn	$9.94
Weaving wage	1.02
Dyeing and finishing	2.24
Expenses	1.98
Cost per cut	15.18
Per yard	.161

C2. Estamene Serge; weight, 5.5 ozs. per 42 inches; warp, 55 ends per inch, 2/38s worsted, 82 lbs. strength, 9/10 inch elasticity, 11 3/10 turns per inch; filling, 43 picks per inch, 1/28s worsted, 39 lbs. strength, 8/10 inch elasticity, 11 3/4 turns per inch; chemical test, all wool; cost estimate for 55 yards, 42 inches wide.

Cost.

Cost of yarn	$6.74
Weaving wage	.68
Dyeing and finishing	1.62
Expenses	1.18
Cost per cut	10.22
Per yard	.186

D2. Serge Cloth; weight, 5.5 ozs. per yd. 40 1/2 inches; warp, 55 ends per inch, 2/38s worsted, 72 lbs. strength, 9/10 inch elasticity, 12 1/2 turns per inch; filling, 47 picks per inch, 1/33s worsted, 35 lbs. strength, 1 inch elasticity, 15 turns per inch; chemical test, all wool; cost estimate for 94 yards, 44 1/2 inches wide.

Cost of yarn	$8.98
Weaving wage	.96
Dyeing and finishing	1.98
Expenses	1.98
Cost per cut	13.90
Per yard	.148

(The test for elasticity and strength was made in each case with a pattern 5 inches long by 2 inches wide; the jaws of the machine being 3 inches apart.)

WASHINGTON NOTES.

(By Our Special Correspondent.)

I was able to interview Mr. Osborne of the Bureau of Trade Relations, of the State Department, recently, in regard to the Consular inquiry into the cost of foreign production. I was told that the investigations have been pursued with a fair measure of success, and that the Department has already turned over to the Ways and Means Committee considerable valuable information. This will not be published for the present, however, although eventually it is the intention to make it public. I was informed that many German manufacturers refused to answer the questions, and that there was some opposition to the investigation in Great Britain, owing to the publication of "a partial list" of the questions by a Birmingham newspaper, and which were also published in the Textile World Record. Nevertheless many British manufacturers did respond with information, but with the understanding that their names were not to be divulged. The information secured includes statements from a number of textile concerns. Mr. Osborne considers that, on the whole, the inquiry has been successful, and states that the work is still going on.

* * *

Under a law of Congress enacted at the last session, the Bureau of Plant industry of the Department of Agriculture has taken up the matter of fixing standards upon the proper grading of cotton. The Secretary of Agriculture was authorized under the Act to call to his assistance in this work expert cotton classifiers, and to fix a standard of middling cotton, to be used as a basis to establish standards for nine different grades, to be designated as follows: Middling fair, strict good middling, good middling, strict middling, middling, strict low middling, low middling, strict good ordinary, and good or-

dinary. These grades shall be the official standard of cotton classifications. The Secretary was further authorized and directed to prepare in practical form the standard of said grades and furnish the same upon request to any person, the cost to be paid by the person making the request, and certified under the Secretary's signature and the seal of the Department.

Dr. Woods, the Assistant Chief of the Bureau, informs me that this important work, which is under the immediate direction of Dr. Nathan A. Cobb, has been entered upon and very satisfactory progress has been made toward the preparation and issuance of proper standards. In the course of the work the department is receiving the heartiest cooperation of everybody concerned; and while it is too early to make definite statements to the public, I am assured that the standardization will be along practical lines, nine distinctive grades to be recognized.

* * *

Apropos of the statements concerning sisal hemp production, which appeared in the September issue of this journal, some interesting facts have recently been transmitted to the State Department in relation to the sisal hemp production of East Africa. Fifteen years ago the German East Africa Company imported 1,000 sisal hemp plants from Florida, only 62 of which survived. Seven years later the company was able to export hemp to the value of $755, and in another six years to the value of $155,000. Two years ago a total of over a million and a half of plants, derived from the survivors of this importation, were ready to cut. According to a report of the company, forwarded by Consul W. S. Hollis, from a million plants an annual crop of 333 to 435 tons may be depended upon, although new plants must be inserted between the old ones every two or three years to supply the loss of plants by poling, or blossoming. The main advantage in Yucatan is through the non-flowering of the plants, by which annual cuttings of leaves may be made indefinitely. It is said that in all other sisal growing countries, and even in Mexico proper, the life of a plant is seven or eight years, as poling means the destruction and the plants will blossom within this limit, and nothing can be done to prevent it.

* * *

One of the drops in the bucket, in connection with the work of the Western Agricultural Extension, or Reclamation Service, is the introduction of Egyptian cotton culture into Arizona, referred to briefly in our notes last spring. Thos. H. Kearney, who is in charge of the Alkali and Drought Resistant Plant Breeding investigations of the Department of Agriculture, and who has lately returned from the cotton fields of Arizona, states that the season's work, on the whole, has shown favorable results, although much has yet to be learned concerning the best methods for cotton irrigation. While the farmers of the region are very much interested in the work, the department is holding back general cultivation, as it is still engaged in breeding experiments, and there will be no general distribution of seed for a year at least. The crop of the present season amounted to only 10 to 15 bales, produced by farmers and by the Indian office. This is being graded by John A. Walker, of Boston, who thinks that most of the crop will grade as "fine." A Platt Bros. (English) gin—the same that is almost universally used in Egypt—and a screw press have been installed since last spring, under the auspices of the Indian office and the Department of Agriculture.

* * *

Mr. Kearney states that the climatic conditions of the Colorado River region in southern Arizona and south-eastern California are unrivaled from the standpoint of cotton growing. At least 600,000 acres of excellent land are or soon will be under ditch in the Imperial, Yuma, Salt and Gila valleys. One-fifth of this acreage could produce the average amount of Egyptian cotton that is annually imported into the United States. The soils are for the most part very fertile and an abundant and permanent supply of water for irrigation is at hand. It has been demonstrated that a yield of two bales per acre is possible in this region, where the very long, but almost rain-

less summers, deep alluvial soils, and irrigated agriculture approximate the conditions obtaining in Egypt. The varieties which have been under experiment in this region are the Ashmuni, Mit-Afifi, Jannovitch, Abbasi and Nubari, the second and third named giving the best results in acclimatization. The Abbasi variety was soon discarded as it too nearly resembled Sea Island cotton, with which it would compete in the market. In the work in Arizona, two principal difficulties remain to be overcome. These are the labor and the marketing of the crop. Cotton picking is a serious difficulty in a region where labor is scarce and wages high. The transportation problem is yet to be solved. But as the cotton brings a high price it may be possible to ship it to the Pacific Coast by rail, or even to Gulf ports and then by water to New England.

Proposals for the Reform of Cotton Exchanges.

BY S. J. CHAPMAN, M. A., M. COM.

Professor of Political Economy and Dean of the Faculty of Commerce in the University of Manchester, England.

(Specially written for the Textile World Record.)

Before any person can frame reforms it is obviously essential that he should know exactly in what the evil consists which he desires to eradicate. Those who have read my articles in this journal will realize that I do not believe the evil of produce exchanges to consist in all kinds of speculation. Some kinds of speculation are good because they smooth prices and shift risks from the producers and manufacturers onto commercial men who can devote their whole working time to studying market conditions.

Now beneficial kinds of speculation imply (1) a knowledge of the conditions of supply and demand, read in the light of past experience, on the part of the speculators and (2) that operations shall not be conducted in order to deceive the market, or outsiders, or in order to affect prices in any other way. What it is desired to remove is (a) speculation by the ignorant, and (b) speculation which engages in fictitious dealing with intent to deceive and so to alter the level of prices. The problem is how to get rid of the second class of speculation and to retain the first class unimpaired.

Berlin for a time, as regards her wheat market, tried the drastic remedy a few years ago of shutting up the exchange altogether. A study of the effect was made by Mr. Hooker and published in the Journal of the Statistical Society (London), and his conclusion was that prices had by no means been steadied as a result. The explanation was that steadying influences had been destroyed with the unsteadying influences. Recently there has been some talk in France of aboiishing the wool exchange at Roubaix (see the June issue of this journal), but I cannot imagine that such a course will be taken, or that if taken serious loss and commercial disorganization would not be the consequence.

I feel by no means hopeless as to the probability of operations harmful to the community being weeded out from produce exchanges. More than half of the difficulty in the way of reform is removed when the public as a whole understands quite clearly what it is exactly that ought to be suppressed. It is in short, I repeat,

(a) Operations by the inexpert and

(b) Operations intended to deceive. Of these evils the first is the least, and we may observe that the outsider is at present discouraged by brokerage fees. It is not easy to see how he can be discouraged further without dealing by the expert being checked since some of the expert are outsiders. Something might be done perhaps, under a law of gambling to prevent deliberate attempts from being made to draw the public into gambling in produce exchanges.

The second evil could be attacked as conspiracy to defraud. The difficulty would be, of course, to prove the conspiracy. Obviously no undue straining of the law is

needed to bring "matched sales" within the class of conspiracies to defraud. They cannot be stamped as "fraudulent" now, the law being what it is, but there is no reason why in the interests of the communities they should not be classed wholly as fraudulent, providing that breaches of a law of this kind could be discovered and that the law could be enforced.

"Bulling" and "bearing" with intent to deceive, the method not however being "matched sales," could hardly be brought within the compass of such a law, for here the transaction is rendered objectionable merely by the purpose for which it is entered upon. A court of law could not determine purpose in this matter without sufficient certainty to render it satisfactory that the legality of an action should turn upon the purpose which initiated it.

If, however, the law relating to conspiracy to defraud were made elastic, certain financial campaigns on a large scale entered upon by syndicates might be checked to some considerable extent. Administering the law would be the difficulty. The proposal recently made in France with reference to the wool exchange at Roubaix seems to me a promising one and one, therefore, worthy of adoption as an experiment. It is that a controller of the exchange (who ought to be a government official) should be appointed and that all transactions should be returned to him daily by dealers. It would be understood, of course, that returns were made under seal of confidence, except in so far as fraud (as defined above) were suspected, if the law relating to fraud which I have outlined were adopted.

I conclude by repeating the two points in the suggestion of reform which I have to offer: the one is that the class of offences known as conspiracies to defraud should be extended; the other is that an official controller should be appointed to each exchange endowed with wide powers of obtaining information as to what is taking place in the exchange under his surveillance.

The total value of the cotton crop of 11,571,966 bales for the year 1907-8 was $672,285,093.

THE MEMPHIS COTTON CONFERENCE.

The conference called at Memphis last month by Harvie Jordan, President of the Southern Cotton Association, was largely attended by representatives from all sections of the cotton belt. The resolutions, of which an abstract is given below, voice the general sentiment of the planters who are evidently resolved to protect their interests by vigilance and thorough organization:

Holding and Selling: We most earnestly recommend to the cotton growers of this country, and would like to have this recommendation understood as applying individually to every person who grows cotton, that, so far as may be possible in each individual case, none of the crop of 1908, still in the ownership of the producer, be sold below the meat and bread line of 10 cents per pound for short staple cotton.

We urge that after the markets shall reach this price, the cotton growers shall sell the product slowly, so as to prevent selling in excess of one-tenth per month of the remaining crop of 1908. We urge that in future all cotton growers avoid, as far as they can, incurring indebtedness to be paid at time of gathering their crops, in order that they may be better able to hold their products for a fair price, and that, where farmers do not have obligations that must be met, though a fair price may be secured that will more than pay the cost of production, they use the same methods of other business men and market their cotton throughout the year, instead of dumping it all on the market, whether needed or not, during the few months of gathering season.

Financing Cotton in Storage: We favor the prompt payment of debts when due, and for this purpose debtors would borrow money, if not otherwise able to pay them. To effect this, we urge upon cotton growers the policy of applying to their local banks for loans secured by warehouse receipts representing cotton to be held for the purpose of being marketed only when demanded by actual consumption. We earnestly request Southern bankers to accept such warehouse receipts as collateral for loans with the declared policy of extending each loan from time to time so long as the loan is safe. To effect this, Southern bankers are most respectfully urged to devise some general plan for rediscounting in domestic and foreign money centers farmers' paper secured by cotton warehouse receipts.

A Cotton Bank: We recommend to the immediate attention of Southern bankers and financiers the inauguration of a great cotton bank at some leading center in the South for the purpose of establishing a clearing house to aid in financing and marketing the cotton crop each season, and to become the medium of financing the local banks of the South in order that the financial interests of the South may be gradually divorced from the control of foreign influences.

Diversification of Crops: Our system of con-

tinuous cotton growing upon the same land is not only impoverishing our people, but it threatens to exhaust our soils to such an extent that it will pauperize the next generation unless it is speedily stopped and efforts made to restore the land. This can only be brought about by scientific study of the soil, and practical rotation of crops, resulting from proper diversification.

Cotton Mills in the South: While there has been a gratifying increase of about 70 per cent. in the number of cotton spindles in the South in the past eight years, and a corresponding increase in the cotton used in these Southern mills, we believe that the interests of the cotton growers demand a cotton mill in close reach of every cotton farm in the South, and we urge a continuation of the agitation for "cotton factories enough in the South to manufacture our cotton."

Warehouses: We recommend the extension of warehouse facilities at local market points and all large interior cotton markets and the ports, and we especially commend and endorse the building of the proposed warehouse at the port of New Orleans.

Compressing, Sampling and Bagging: We recommend gin compressing, and the marketing as far as possible from grower to spinner, and that duplicate samples be taken by the ginners, and that these samples be numbered and marked, same as the bale of cotton, one of said samples to be retained by the ginner and the other to go to the owner, and that as far as practicable cotton bagging be used instead of jute bagging, thereby creating a demand for low-grade cotton, and that all cotton be bought and sold on basis of net weight, deducting actual weight of bagging and ties.

Cotton Exchanges: We recommend that the Congress of the United States and the various State Legislatures enact laws requiring that the Cotton Exchanges revise their contracts, making said contracts fair and just, and that the cotton delivered on same be restricted to not more than five grades, and that none below low middling be deliverable. We condemn the speculative and gambling features as encouraged and practiced through all exchanges.

THE HOME MARKET CLUB.

The annual meeting of the Home Market club was held in Boston last month. James R. MacColl, of Pawtucket, R. I., was elected president. The choice of Mr. MacColl is especially welcome to the textile manufacturers of the country, for his experience and knowledge of the textile industry will be of the greatest possible value just at this time when the textile schedules are being revised. Mr. MacColl is a man who never shirks the duties and responsibilities of any office to which he is chosen, and those who are familiar with his official work for other organizations with which he has been connected feel much gratified that the textile interests have so able a representative at the head of this representative protective organization. During the revision of the Dingley tariff Col. Albert Clarke, the secretary of the club, will spend much of his time at Washington in order to keep in close touch with the legislative situation. Col. Clarke's knowledge of the tariff, his experience in public affairs, wide acquaintance with members of the House and Senate, his tactfulness, integrity and good judgment all fit him in an exceptional degree for the duty of looking after the interests of American industries.

THE NATIONAL ASSOCIATION OF WOOLEN AND WORSTED OVERSEERS.

The twenty-sixth annual meeting of the National Association of Wool and Worsted Overseers was held at the American House, Boston, Mass., November 21. The meeting was called to order by first vice president, F. P. Gallagher of Woonsocket, R. I., president James McDowell not being present. A letter was real from President McDowell regretting very much that he could not be present on account of illness in his family. A letter was also read from secretary Walter Pickford expressing his regret at not being able to attend, being still confined to the Clinton Hospital. J. H. Pickford was chosen temporary secretary during Walter Pickford's absence.

A large list of names for new membership was read. The question was raised by Chas M. Hirst regarding the advisability of admitting superintendents and assistant superintendents to membership. Several members expressed their opinion as to whether or not such men should be admitted, the general sentiment being strong in favor of admitting them. An amendment to article 3 of the by-laws was then adopted, providing for the admission of any superintendent, overseer or designer in a woolen or worsted mill to the association.

The balloting for officers for the association resulted as follows:

President—James E. Okell, Pascoag, R. I.
First Vice-President—F. P. Gallagher, Woonsocket, R. I.

Second Vice-President—J. H. Pickford, Clinton, Mass.

Third Vice-President—Louis Allison, Worcester, Mass. [The total number of votes cast for this office was 96; necessary for a choice, 49. Mr. Allison had 67; Lees Mallison of Mapleville, R. I., 18; Joseph Schofield of Uxbridge, Mass., 8; William Lacey of Pascoag, R. I. (who withdrew his name, prior to the balloting), 3.]

Secretary—Walter Pickford, Clinton, Mass.

Treasurer (of the general association and also of the Beneficiary Department)—Thomas Buchan, Hyde Park, Mass.

Secretary Beneficiary Department—Henry Morey, Danielson, Conn.

Trustees—John Thornton, Chepachet, R. I.; Eleazer Davies, Plymouth, Mass.; Louis Carmark, Providence, R. I.

The financial report showed a balance on hand in the beneficiary department of $167.10; and in the general treasury, $561.61.

The next meeting is to be held at Boyden Heights in May, 1909. Messrs. Hirst, Amback, Gallagher, Carmack and McDowell were appointed to take charge of the arrangements.

The guests sat down to the annual dinner at 1.30 which all enjoyed.

The following new members were then elected:

ACTIVE MEMBERS.

Thomas E. Buxton, dyer, East Douglas, Mass.
Elwin E. Leith, spinner, Clifton Heights, Pa.
Thomas P. Lenehan, picker, Lowell, Mass.
M. J. O'Brien, carder, Monson, Mass.
Richard Crane, sorter, Millbury, Mass.
Cornelius F. McLaurien, designer, East Douglas, Mass.
Thomas Thomas, designer, Lowell, Mass.
John Gormley, Jr., Waterville, Me.
Alfred Richardson, designer.
James Parkin, designer, Harrisville, R. I.
Herman E. Shulze, designer, Greenville, R. I.
Robert Dawson, designer, Harrisville, R. I.
John E. Peacock, weaver, Clifton Heights, Pa.
Joseph Fielding, weaver.
William Eyers, weaver, Central Village, R. I.
James Davies, weaver, Harrisville, R. I.
Geo. W. Coleman, weaver, Pascoag, R. I.
William Bagley, weaver, Danielson, Conn.
Clarence C. Harris, spinner, Killingly, Conn.
George Smethurst, spinner, Central Village, Conn.
Robert J. Harrington, spinner, Dalton, Mass.
Ernest F. Moore, spinner, Collinsville, Mass.
Rowland Hartley, dyer, Allentown, R. I.
Harry McClintock, dyer, Blackstone, Mass.
Fred P. Harmon, finisher, Lowell, Mass.
Charles Dursthoff, finisher, Lowell, Mass.
Harold E. Whitaker, finisher, Lowell, Mass.
Joseph Carter, finisher, Uxbridge, Mass.
Earle C. Carr, finisher, Woonsocket, R. I.
Moses Lawlor, finisher, Bristol, Pa.
John Hefferman, supt., Lymansville, R. I.
Robert B. Scott, supt., Cherry Valley, Mass.
John P. Barry, asst. supt., Cherry Valley, Mass.
John Howard, asst. supt.
Fred V. Hanson, supt., Greenville, R. I.

ASSOCIATE MEMBERS.

James Gibbs, Philadelphia, Pa.
Thomas Somham, Lowell, Mass.

The guests present were:

Connecticut:
J. E. Bradley, Rockville.
F. C. Neff, Rockville.
Bert O. Cook, Central Village.
John F. Mulligan, Stafford Springs.
Martin Welch, Central Village.
T. Jos. Jennings, Central Village.
W. H. Wilcox, Yantic.
C. M. Ellis, Putnam.
Peter Stitt, Broadbrook.
J. T. Rogers, Rockville.
H. G. Morey, Danielson.
Thomas Richmond, Killingly.
Wm. Evers, Central Village.
Richard D. Twohig, Norwich.
William Bagley, weaver, Danielson.
Clarence C. Harris, spinner, Killingly.
George Smethurst, spinner, Central Village.

Maine:
Albert P. Foster, Maddison.
Geo. Ormiston, Oakland.
Wm. F. Scott, Maddison.
Archibold Ormiston, Hartland.

Massachusetts:
W. E. Rowlandson, Lowell.
B. R. Horan, Plymouth.
Frank H. Dickson, Collinsville.
John H. Greenhalge, Gilbertville.
Thomas Edward Ainsley, West Warren.
E. B. Flannegan, North Bellingham.
E. H. James, North Andover.
A. E. Jones, Northboro.
J. J. Devitt, Uxbridge.
Chas. Sprou, Stoughton.
Andrew Gibson, North Andover.
Charles E. Hoyle, Boston.
Hiram Rathbun, Byfield.
Albert E. L. School, Lowell.
E. T. Albertine, Gleasondale.
R. A. O'Donald, Pittsfield.
Frazier L. O'Leary, Boston.
John Hefferman, Lymansville.
John Gagan, Lowell.
J. N. Larose, Cherry Valley.
T. E. Moore, Webster.
Freddy Moseley, Canton Junction.
Ernest Haynes, Millbury.
D. G. Byars, Farnamsville.
O. F. Ireland, Somerville.
E. W. Keough, Middleboro.
J. F. Geb, Franklin.
G. A. Copeland, Watertown.
James Minto, Canton Junction.
W. H. Stophed, Lowell.
John A. Bugney, Concord Junction.
W. A. Moulton, Boston.
T. F. Brennan, East Dedham.
James C. Karmark, Canton.
D. C. Fisher, Dorchester.

Ed. F. Magone, Lowell.
Jas. H. Horsfall, Lowell.
Wm. McKinnon, Lowell.
A. W. Fredericks, Pittsfield.
Frank Norris, Pittsfield.
Wm. H. Hassett, Worcester.
M. J. O'Brion, North Andover.
Ernest F. Moore, Collinsville.
J. T. Patterson, Lawrence.
John Ogden, Lowell.
John Howarth, Lowell.
Chas. A. Kennedy, Canton Junction.
Wm. Sullivan, Cherry Valley.
R. J. Harrington, Dalton.
A. C. Neff, West Millbury.
Wm. Hazleton, Cambridge.
Anthony Keenan, Lowell.
Harry Broughton, Plymouth.
C. T. Donlevy, Boston.
Herbert Midgely, Worcester.
Jas. Sullivan, Holden.
R. B. Robinson, Lowell.
J. Wm. Whitehead, Lowell.
Bernard V. Searles, Lowell.
Jas. H. Rule, North Billerica.
Arthur Briggs, Stoughton.
E. S. Eddy, Worcester.
Purley H. Gower, Watertown.
Wm. J. Pearce, Webster.
A. E. Robinson, Wales.
Thomas P. Smith, Worcester.
Wm. McOnachie, Clinton.
Turner Rollison, Franklin.
Geo. W. Gerry, Lowell.
R. J. Hackett, Lowell.
Thomas Byram, Saxonville.
H. Balcomb, Gleasondale.
W. T. Loomis, East Douglas.
J. H. Crowther, East Douglas.
Geo. R. Howarth, Careyville.
Wm. M. Mitchell, Worcester.
E. G. Tainter, Wamesit.
W. E. Chamberlain, Saxonville.
D. Duffy, North Bellingham.
J. R. Simpson, Fitchburg.
Jos. F. Gahn, Charlton City.
Daniel Sullivan, Oxford.
Jas. Boothman, Lawrence.
John J. Shay, Lowell.
J. H. Pickford, Clinton.
Thomas Buchan, Hyde Park.
Louis Allison, Worcester.
J. T. McCormack, Hyde Park.
Jas. H. Lawlor, Maynard.
Asa S. Garth, Fitchburg.
S. J. McIntyre, Collinsville.
F. L. St. George, North Bellingham.
John Hughes, North Billerica.
W. E. Davison, Uxbridge.
John W. Linnehan, Boston.
Jas. J. Morgan, Maynard.
John Lawton, Maynard.
Joseph Carter, Uxbridge.
Frank Steiner, Lawrence.
H. C. Templeton, Collinsville.
D. P. Scribner, Waltham.
Thomas F. Nulty, Uxbridge.
Albert Newbury, Clinton.
E. H. Boyce, Clinton.

Jos. Bond, Worcester.
Wm. Ahern, Worcester.
Jas. H. Cobb, Careyville.
Thomas Somham, Lowell.

Michigan:
Fred S. Klebart, Detroit.

New Hampshire:
I. Clark Partelo, Franklin.
T. N. Parent, Franklin Falls.
Frank R. Bean, Wilton.
J. D. Cornell, Lebanon.

New York.
P. F. Hanlin, Stottsville.

Pennsylvania:
Jos. A. Bolger, Germantown.
E. L. Copeland, Butler.
Jas. Gibbs, Philadelphia.

Rhode Island:
Jas. E. Okell, Pascoag.
P. F. Gallagher, Woonsocket.
Louis Carmark, Providence.
Chas. Attiridge, Providence.
Thomas J. O'Malley, Providence.
Fred. Williamson, Washington.
Jos. W. Costello, Broadbrook.
Thomas R. McGlune, Woonsocket.
Lees Mallison, Mapleville.
Rinaldo E. Greene, Mapleville.
Michael F. Quinn, Pascoag.
Herman Ambach, Lymansville.
James J. Farron, Manton.
Abraham Hey, Woonsocket.
James A. Toop, Washington.
L. Prendergast, Woonsocket.
John Drummond, Providence.
James Reynolds, Lymansville.
James Wilson, Manton.
P. T. Donough, Greenville.
W. H. Nettleton, Providence.
Jos. T. Dolan, Harrisville.
Francis W. Perkins, Masonville.
Wm. L. Lacey, Pascoag.
J. E. Truesdale, Providence.
Geo. H. Coleman, Jascoag.
Patrick Purcell, Manton.
Wm. F. Mulligan, Harrisville.
J. G. Burnes, Providence.
John J. Hetherman, Oakland.
J. F. Branscomb Doyle, Thornton.
R. E. Baley, Centerville.
Patrick J. Malone, Bridgeton.
Chas. Whitehead, Washington.
Chas. M. Hurst, Providence.
R. C. Shortman, Providence
C. J. Henault, Bristol.
Thomas F. Rieley, Pascoag.
Fred Carter, Pascoag.
John Henderson, Providence.
Ephran Bedford, Thornton.
Jas. F. Quinn, Bridgeton.
E. Fred Deverall, Providence.
Geo. R. McDougall, Enfield.
P. F. Doyle Allenton.
Ulric Burke, Carolina.
Ernest A. Sutcliffe, Woonsocket.
H. O. Werner, Providence.
Jos. Ridings, Providence.
Frank Eiler, Lymansville.
John E. Hey, Woonsocket.

The Textile World Record's Annual Report of Mill Construction for 1908.

The number of new mills built in the United States in 1908 is smaller than for any one of the previous nine years; two hundred and twenty-two as compared with two hundred and sixty-two in 1907. The smallest number on record next to this year is two hundred and forty-five in 1905. The decrease in the new mill construction is, of course, due to the financial conditions which

COMPARISON OF NEW MILL CONSTRUCTION FOR LAST NINE YEARS.

	1908	1907	1906	1905	1904	1903	1902	1901	1900
Cotton	47	64	74	53	48	81	68	59	171
Woolen	23	25	56	38	45	65	46	53	48
Knitting	94	83	103	79	111	105	82	93	109
Silk	33	51	36	53	49	58	45	29	43
Miscellaneous	25	39	34	42	37	25	21	21	29
	222	262	303	245	290	334	262	255	400

prevailed during the early part of this year and which were not such as to invite investment of new capital. In every branch of the industry there were fewer mills built than in the previous year, with the exception of the knitting branch; in that department there have been a number of new mills started up in the last six months.

The silk industry, which in 1907 showed a large increase in construction over the pre-

NEW COTTON MILLS.

New England	No.	Spindles	Looms
Massachusetts	8	115,000	108
Maine	1	....	....
New Hampshire	1	....	....
Rhode Island	1	....	10
	11	115,000	118
Southern States			
Alabama	1	5,000	....
Georgia	2	10,000	240
North Carolina	15	52,693	262
South Carolina	4	23,500	200
Texas	1	.....	....
	23	91,193	702
Middle & Western States			
New Jersey	4	3,500	24
New York	1	.....	....
Pennsylvania	8	.....	2
	13	3,500	26
Total	47	209,693	846

vious year, shows a marked falling off in 1908, only 33 new mills started as compared with 51 in 1907. The silk industry, like the knitting branch, centers about New York, New Jersey and Pennsylvania.

North Carolina takes the lead in new cotton mill construction with 15 mills, but of smaller average size, as shown by the total

NEW WOOLEN AND WORSTED MILLS.

New England	No.	1908	1907	1906	1905	1904	1903
Massachusetts	2						
Rhode Island	3						
	—	5					
Middle States							
New Jersey	2						
New York	2						
Pennsylvania	9						
	—	13					
Western States							
Arkansas	1						
Michigan	1						
Oregon	1						
	—	3					
Southern States							
Texas	1						
	—	1					
		22	25	56	38	45	65

number of spindles, 52,693, less than half the number in the two large Massachusetts mills under construction and soon to be completed.

The new woolen mills are none of them

NEW KNITTING MILLS.

New England		1908	1907	1906	1905	1904	1903
Maine	2						
Massachusetts	6						
Rhode Island	3						
Vermont	1						
	—	12					
Middle States							
New Jersey	5						
New York	17						
Pennsylvania	32						
	—	54					
Western and Middle States							
Colorado	1						
Illinois	2						
Iowa	1						
Michigan	2						
Ohio	5						
Utah	1						
Washington	1						
Wisconsin	1						
	—	14					
Southern States							
Georgia	2						
North Carolina	9						
West Virginia	1						
	—	12					
		92	83	103	79	111	105

large and most of them are for manufacturing worsted yarns or worsted fabrics.

The knitting mills, as usual, show the greatest increase in the Middle States, New York and Pennsylvania taking the lead, but there is an unusual number of scattering mills

through the Western States, and North Carolina has nine new knitting mills to its credit.

The detailed report of the new mill construction, which will be found on page 408, may be studied with interest. Besides the strictly new mills it will be noted that in enlargements and improvements, which are classed as new mills, there is fully as much increase in manufacturing capacity as in new enterprises. There has not been much falling off in improvements, which indicates that manufacturers have taken advantage of the dull times to overhaul their plants, install new machinery and prepare for the better times in the future.

The study of the miscellaneous new enterprises is particularly interesting, as showing the tendency to specialize in different branches and the indication of new uses for textile fabrics. Taken altogether the record of mill construction is larger than would have been thought possible at the beginning of the year and indicates a healthy growth and confidence for the future.

COMPARISON OF SPINDLES IN NEW COTTON MILLS FOR THE LAST TEN YEARS.

	1908	1907	1906	1905	1904	1903	1902	1901	1900	1899
New England	115,000	113,000	171,000	100,800	161,184	135,000	347,320	30,000	1,185,700	315,000
Southern States	91,193	294,745	294,956	97,920	55,472	281,752	490,256	259,360	109,584	669,970
Middle and Western States	3,500	10,250	27,040	.....	.....	.....	25,000	2,064	11,500	78,000
Totals	209,693	417,995	492,996	198,720	216,656	416,752	862,576	291,424	1,306,784	1,062,970

NEW SILK MILLS.

	1908	1907	1906	1905	1904	1903
Connecticut						
Braids 1						
Broad Silks 1						
Ribbons 1						
— 3						
Missouri						
Broad Silk 1						
— 1						
New Jersey						
Broad Silks 8						
Ribbons 4						
Silk Throwing 1						
— 13						
New York						
Broad Silks 1						
Ribbons 1						
Silk Throwing 1						
— 3						
Pennsylvania						
Broad Silks 3						
Gloves 1						
Ribbons 4						
Silk Throwing 1						
— 9						
Rhode Island						
Broad Silks 1						
Braid 1						
Silk Thread 1						
— 3						
Total	32	51	36	53	49	58

Weight of Woven Flannel.

Editor Textile World Record:

Please show me how to calculate the woven weight per yard of our goods, which are laid out as follows:

4,320 ends, 9 runs; 99 inches wide in looms; 48 picks, 9 1/2 runs. The goods are woven in three widths in the loom, and the 4,320 ends are for the three widths. Fine Yarn (1035).

The weight of the cloth in question is calculated as follows:

4,320 (ends) ÷ 900 (yds. per oz.) = 4.8 ozs. warp
(98 in. × 48 picks) ÷ 950 (yds. per oz.) = 4.9 " "
9.7 ozs. filling

An allowance of 5 per cent. for warp take-up and slack in filling is made as follows:

9.7 (ozs.) ÷ .95 (100% — 5%) = 10.2 ozs. per woven yard.

The weight will be increased slightly by the selvages for which "Fine Yarn" omits to give the details. He also fails to state what weave is used. The warp take-up varies with different weaves. If the allowance of 5 per cent. is right, then the cloth woven in three widths should weigh 10.2 ounces per yard plus the weight of the selvages.

The cotton industry dominates Muelhausen. The number of spindles in the eight important mills in 1905 was 520,300, the largest having alone 143,000, and four others having from 50,000 to 86,000. Eight important weaving mills had in 1905 8,100 looms, five of the largest had from 900 to 1,880 looms each. In the woolen industry there were 272,800 spindles, distributed among six firms, the largest with 115,000, and 1,000 looms.

Several years ago it was estimated that of every 1,000 inhabitants of Muelhausen, Germany, 158 were workpeople employed in the cotton industry, a larger proportion than in any other textile town in Germany.

CORRESPONDENCE AND NOTES

Upon Textile Topics At Home and Abroad.

RIBBON WEAVING.

BY OTTO BOTH.

(Translated from Die Bandweberei.)

(Continued from November.)

Balanced Twills. In these the same number of threads are lowered as are raised at each pick, making back and face alike, except that the twills run in different directions. Fig. 10 shows a 4-leaf balanced twill running to the left, woven 2 up and 2 down. Fig. 11 is an 8-leaf balanced twill woven 3 up, 3 down, 1 up, 1 down, at each pick, thus having 4 threads up and 4 down in the pattern, which covers 8 threads.

SATIN WEAVES.

While the twill weaves form diagonal stripes, satin weaves give a smooth, lustrous

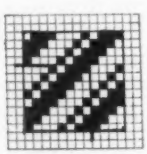


FIG. 11.

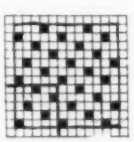


FIG. 12.

surface to the cloth. Accordingly the stitches in a satin weave are distributed so as to show on the face as little as possible and so as not to bring two or more of them together. The smallest satin weave covers 5 warp threads. The stitchers on every pick are located a certain number of warp threads from the stitchers on the preceding pick; this is called the advance number of the weave. Likewise every warp thread is stitched a certain number of picks from the stitcher on the preceding warp threads; this is called the rising number of the weave. In laying out a satin weave the advance and rising numbers are determined by dividing the number of threads in the weave into two parts conforming to the following conditions:

(1) Neither number should be one; (2) the two numbers must not be equal to each other; (3) one must not be divisible by the other; (4) the two numbers must not be both equally divisible by a third.

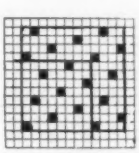


FIG. 13.

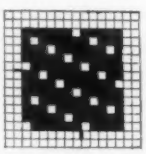


FIG. 14.

Numbers that conform to these conditions can be used for the rising as well as the advance number of a weave. Take for illustration an 8-leaf satin weave. Eight is divisible by 1 and 7, but this division cannot be used because one is excluded by the first rule laid down. The division into 2 and 6 is not permissible because of rule 3. The

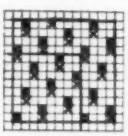


FIG. 15.

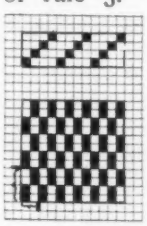


FIG. 16.

numbers 3 and 5 can be used, but 4 and 4 are not permissible because of rule 2. Accordingly for an 8-leaf satin weave 3 and 5 can be used for the advance and rising numbers. Satin weaves are divided into two groups; one filling weave and 2 warp weaves. In a filling satin weave each warp thread is raised over only one pick in a pattern.

Fig. 12 shows a 5-leaf satin weave in which the rising number is 2 and the advance number 3.

Fig. 13 is an 8-leaf satin weave in which the rising number is 3 and the advance number 3.

In a regular warp satin weave each pick is stitched but once in a pattern.

Fig. 14 shows a 7-leaf warp satin weave

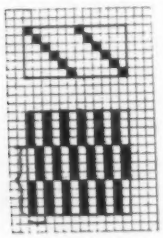


FIG. 17.

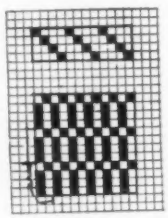


FIG. 18.

in which the rising number is 3 and the advance number 5. No regular advance and rising numbers are available for a 6-leaf satin weave. Accordingly the stitchers on this weave are distributed so that filling ways they fall on warp threads 1, 3, 5, 2, 6, 4. This gives a somewhat imperfect appearance to the cloth and consequently the 6-leaf satin weave is used very little.

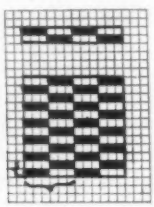


FIG. 19.

Reinforced satin weaves are those in which one or more stitchers are placed to the right or left of the regular stitcher in a filling weave and above or below the regular stitcher in a warp weave.

Fig. 15 shows a reinforced 8-leaf satin weave.

RIBBED WEAVES.

Ribbed weaves are derived from the plain weave and are named from the ribbed effects which they produce. In warp ribs the ribs are formed by the warp yarn, between which the filling threads lie. Accordingly warp ribs run crossways of the cloth. In a warp rib each warp thread is woven opposite, or in taffeta order, to the two adjacent warp threads. Instead of being up one pick and then down one pick, the warp thread remains up for a number of picks and then down for a number of picks. The warp ribs are indicated by the number of picks over or under which each warp thread floats at a time. For example, in a 2 thread warp rib each warp thread is raised for 2 picks and then lowered for 2 picks, there being 4 threads in the pattern. Thus the number of threads in the pattern is double the number by which the

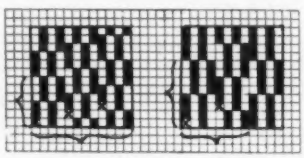


FIG. 20. FIG. 21.

rib is indicated. The number of threads in the warp pattern is always 2, as in the plain weave. If the ribs are of unequal size, that is, cover an unequal number of picks, the weave is indicated by the threads in the 2 ribs. For example, in a 4 by 2 warp rib, one rib covers 4 picks; and the next rib, 2 picks.

Fig. 16 shows a 2 thread warp rib.

Fig. 17 is a 4 thread warp rib.

Fig. 18 is a 3 by 1 warp rib.

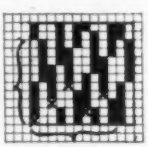


FIG. 22.

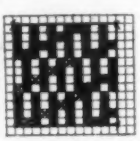


FIG. 23.

In filling ribs the rib is formed by the warp yarn being concealed in the center of the cloth, the ribs running lengthways of the cloth. The warp threads are drawn on two harness, the required number of consecutive threads being drawn on one shaft, and then the required number being drawn on the next shaft.

Fig. 19 shows a 6-leaf filling rib.

Transposed ribs are made by arranging the floats in plain twill or satin order.

Fig. 20 shows a 3 thread warp rib which by groups of 4 threads is arranged in the form of a 3-leaf twill.

Fig. 21 is a 4 thread transposed warp rib in which the threads in groups of 4 are arranged in the order of a plain weave.

Fig. 22 is a 5-leaf transposed warp rib in which the threads are arranged in groups of 2 in the form of a 5-leaf satin weave.

Owing to their lying for long distances in the cloth without being stitched the filling threads in warp ribs and the warp threads in filling ribs easily become displaced and

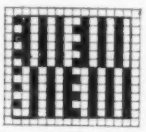


FIG. 24.

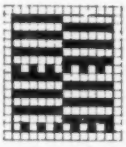


FIG. 25.

crossed over each other. To prevent this the threads are sometimes stitched on the back side of the cloth.

Fig. 23 shows a 4 thread warp rib with the stitchers arranged on the back in 4-lead twill order, the face remaining unchanged. These stitchers cannot be used if the back and face are to be kept the same. In that case a separate stitching thread is introduced in warp ribs after each group of warp threads. In filling ribs a stitching pick is introduced at intervals to accomplish the same result.

Fig. 24 is a 6 thread warp rib with a plain stitching thread.

Fig. 25 is a 6 thread filling rib with a plain stitching pick introduced after every 6 ribbed picks.

(To be continued.)

WHEN IS CLOTH PLAIN?

In all seriousness and with a worthy object an American has launched on the textile world a conundrum which may jeopardize the peace for weeks. It lies in two questions, and their very simplicity constitutes their danger: (a) "What is a plain cloth?" (b) "What is a plain weave?" Twenty-seven competent persons have essayed to answer them, and we may take warning from their attempts, these betraying a striking divergence of opinion.

It is not our desire to divide England into "Big-endians" and "Little-endians" on this question, and we will therefore confine ourselves to a summary of the opinions that have been expressed. It is remarkable that nearly all should agree that the answers are matters of opinion or interpretation. That such things as plain cloths and plain weaves really exist is taken for granted, although what constitutes them is left in rather graver doubt than if the inquiries had never been issued.

One definition, to which there are several adherents, asserts that plain cloth is the (undyed) outcome of plain weaving, and that a plain weave is two-harness work—one thread up and one down. Observe that this excludes twills, than which there is little that is plainer or more common. It excludes also sateens, and that is not satisfactory to the people who assert with some reason that any weaving is plain which does not call for use of a dobby or more than one shuttle. Neither does this definition satisfy the acute persons who foresee a detriment to pure plainness by the introduction of a second fiber, or of yarns of the same fiber but not of the same count or twist or color. If it be said that the warp must be homogeneous and the weft likewise, must it further be said that the warp should be approximately equal to the weft, alike in closeness of reed and in thickness of yarn? Evidently, if the discrepancy in size of threads is sufficient, one might produce by the simplest of plain weaving a fabric that the purist would hesitate to call plain.

We arrive, therefore, at the interesting conclusion that if all plain cloth is plain woven, not all plain weaving produces plain cloth. Were we disposed (as we are thankful not to be) to add fuel to the fire of controversy, we should interpolate objections of our own to any definition that anybody in America or out of it, chose to formulate out of the substances of those detailed. There are details of widths and lengths and looms into which the Americans have not entered, and we accordingly refrain.

A temptation to suggest that there is not any such thing as a plain cloth or weave may have crept into the mind of the author of the inquiry, and our own faith in its existence is imperiled. A wise and a timely deed

was done when the committee which received the several replies decided that the discussion should be abandoned before it led to ill-feeling. By a piece of strategy their own weakness was concealed, and they retired orderly under the cover of a new phrase. Instead of "plain" cloths they speak now of "staple grey goods," and probably they do not need our disinterested advice not to ask manufacturers if they understand precisely what this term covers. The proverbs as to the blissfulness of ignorance and the correct attitude towards sleeping dogs will occur spontaneously to their minds.—The Textile Mercury.

ENGLISH NOTES.

From our Special Correspondent.

This year has been definitely written off as a bad one, but a great many hopes are pinned on the next. The markets have been under-buying and are generally bare of stock. In domestic industries the outlook is brightening and there is a useful asset of confidence that we are sure to have a larger trade. There are uncertainties as to prices. Home valuations are all lower than current foreign ones and for forward delivery material is appreciably cheaper than for the day. This encouragement to hand-to-mouth dealing is not what manufacturers want and this is the discount to their brighter prospects.

* * *

Agents of the companies that are to make synthetic indigotin are telling their customers that any extra cost arising from "compulsory working" in England will have to be borne by them. Probably without curtailing consumption, prices could be raised, for, according to some estimates, artificial is now 30 per cent. cheaper than natural indigo. The Patents Act provides a convenient excuse for any advance.

That measure is passing into its most interesting stage now that lawyers are beginning to interpret its meaning. Several applications to revoke foreign-held patents are before the Comptroller. Other American and German companies are said to be inquiring for sites, but the most part of 30,000 foreign-held patents are still unrevoked in England.

A company, Steele, Lockhart & Co. has been registered to acquire works and manufacture patented articles affected by the Act. Its dozens of premises and thousands of workmen are still in the air. In Trafford Park, Manchester, a factory let on the room-and-power system for occupation by foreign patentees is now projected.

* * *

The chief piece-dyeing concern, the Bradford Dyers' Association (capital $25,000,000), has notoriously suffered from the depression in trade. Bad trade is the ostensible reason for two notable changes in its policy. The combine has given notice to terminate its agreements on the one hand with its men and on the other with its customers. Both were important, the one providing for three months' delay before a strike and for a scheme of half-pay to men turned out of their employment for certain reasons. The other provided for making prices universal, for three months' notice of a change in price, for certain rebates and for a first preference to B. D. A. branches in all dyeing work. Customers wishing to cover their liability to disturbance of prices are enjoined to make written agreements with the Association.

The combine relinquishes certain advantages, but presumably only with the intention of acquiring new ones. Competition has been growing and it is supposed that the Association wants to deal with competitors with freer hands. In some directions the combine has been cutting prices deeply.

* * *

A difficulty worth noting arises from yarn dyeing with sulphide dyestuffs. The goods are warp-face cotton drills for a foreign army. The warps have been continuously treated, passing direct from the dye bath to the acid developer. The hanks being dyed on rods have been heaped up until enough had accumulated to proceed with the development of the color. The filling has thus been more oxidized and its dye is less soluble.

The yarn dyeing being inexact, the color

has to be reduced, which can only be done in the hydro-sulphite, caustic-soda solution in which the stuff is dyed, followed by a soap wash also alkaline. What happens? The warp face is after much pains brought approximately to pattern; the filling on the back retains its dark color obstinately.

* * *

Resist-dyeing of woolen fabrics, so general now in America, is virtually unknown here. A dyer tells, however, how he evolved a highly efficient resist-liquor to protect the warp colors. Apprenticed in a wool and cotton dye works he had noticed idly as a boy that locks of wool remaining from one dyeing did not take a second color if cotton had been mordanted in the same vessel between whiles. Accordingly, to produce a resist-liquor for wool he made up a tannic-acid mordant both for cotton and found it to give—with the requisite amount of care—pure and clean warp colors.

* * *

In some of the new dye houses and boiler houses the desirability of paving with a material which gives good foothold is remembered. Sandstone and some of the artificial stones are satisfactory. Others of the artificial flags and in particular those made from large particles of granite grow glassy and are to be avoided. Machine-pressed flags made with 3 parts of sandstone to 1 of cement, although softer and more easily worn, give the best obtainable foothold and are sold in this country for something less than $1 per superficial yard, 2 1/2 inches thick. They require rather careful laying and bedding down. The requirement of non-slipperiness is not very well met by some of the compositions which are offered as substitutes for floor-planking. And until recent times little attention has been bestowed on the grip that floors afford the foot. The most urgent need for a good foothold is probably on platforms surrounding large dyeing vessels and coroners' juries are alive to the need.

* * *

An English statesman says "Germany is always either the bugbear or the model." At present she is the show place for a party of woolen operatives from Batley who are being escorted to the textile towns by a Protectionist maker of army cloth. They are to be convinced, if possible, that Protection brings comfort and contentment. It is significant that they are not led to France or to Belgium (where a skilled craftsman gets less than an English unskilled laborer) or to Italy. The Italian Batley is Prato where woolen wages for males begin at 20 cents and end at 90 cents a day.

* * *

The Continentals have done their best to take advantage of the cotton stoppage. Their travelers have been sent in haste to the foreign markets to book the orders for which Manchester wants long delivery German newspapers have enlarged exhaustively upon the possibilities opened to national enterprise and it is admitted by our merchants that the foreign competitor has got into quarters new to him. Still the stoppage has served to clear the market of stocks which stood in the way of further business. It has put a large number of people into the expectation of brisk doings hereafter.

* * *

A statement made by Dr. Oliver that $200,000 is not an extravagent sum to sink in a Scotch tweed mill of 50 looms is agreed to be near the mark. The investment may be more if the mill is to be entirely independent of the bank, be able to buy wool in any quantities and to give the very long credits customary in the first-class trade. The $4,000 a loom might be extended to $5,000 as a maximum.

What then of the shorter credit business in medium or low woolens? Huddersfield used to reckon the necessary sum as $5,000 a set. This was for working in hired premises, but for modern requirements that sum will be too small. The amount wanted in excess can be determined only by circumstances.

* * *

Woolen manufacture as a whole draws a fair measure of support from the banks, but it is generally free from over-capitalization

or any crazy finance. The industry is far more in private hands than the cotton trade is and that is one reason for the absence of speculative mill building. Owing to short credits the liquid capital of cotton mills is kept relatively small. Cost of mill building, however, is large and the new 100,000-spindle spinning mills in Lancashire have been costing $625,00 to $650,000 as against the traditional "pound per spindle"—roughly $500,000 on mills of this size. Such mills have been erected on a capital of merely $50,000, the balance required being raised by loans.

* * *

Some points from the syllabus of the Bradford Textile Society may be interesting. About the society itself be it explained that it meets fortnightly during the winter at the Technical College and is composed of men with an intelligent interest in the industry. Discussions during this session cover Bradford trade ethics, the probable effect of Protection on textile industry in England, the improvement of technical education, weaving improvements, spinning defects, cloth defects, and what measures of cooperation are practicable in Bradford trade.

* * *

There is a suspicion that the worsted processes are too much sub-divided among different hands. Observe how the operations are split up. The top maker buys wool in London or elsewhere and sells it as tops, employing a commission comber. The material is perhaps sent to a commission recomber by a spinner who puts the top into yarn and delivers warps and bobbins to the weaving mill. The weaver (or manufacturer) sends his warps to a commission sizer who may or may not be also a yarn dyer. His cloth is sent out to a commission piece dyer who is probably (but not if he is in Huddersfield) also a cloth finisher. He or his customer may send the goods to a commission shrinker. The changes are numerous, even though the spinner dispense with the top maker. The chain is more involved when third-party manufacturers—as some regularly do—employ commission spindles and commission looms. Add that the separate works for combing, dyeing, spinning, weaving, finishing and so on are often from one to ten miles apart and it is seen that there must be an appreciable expense in haulage as well as in the mere delay occasioned. The theory is that specialization pays for all the several profits taken. Some of this advantage is lost when the specialists fail to play into each other's hands by so treating material that the next process is straightforward.

* * *

The visit of U. S. Special Agent W. Graham Clark to Bradford is understood to have been highly productive. "He has far more detailed information as to costs in the district than I have," declared one of the chiefs of the Technical College, "and more I believe than any man in this room has." The room held two or three hundred representatives of all branches of the worsted industry.

While Mr. Clark has been working in Bradford in the presumptive interest of tariff reduction, a special agent of the Canadian Government has been picking up patterns and information with an eye to higher protection. It should be most instructive to compare the two American reports.

* * *

A table carefully compiled from the records of five years by a Bradford manufacturer of the highest standing has its bearing on present controversies. The figures are arranged to show what different stages of manufacture yield in wages to the workman. They may incidentally help American makers of dress goods and combers and spinners of worsted to see how their costs compare with English costs. W. H. Mitchell, of Fison & Co., Ltd., is authority for the details which are based on one pounds' worth of material of each sort.

	Wool	(%)	Tops	(%)	Yarns	(%)	Cloth	(%)
Fibre	$4.59	95.6	$4.06	84.6	$5.88	64.2	$1.64	34.2
Textile Wages	.03	.6	.33	6.9	.66	13.8	1.44	30.0
Supplies and other wages	.03	.6	.21	4.4	.42	8.7	.88	18.3
Standing charges	.15	3.1	.20	4.1	.64	13.3	.84	17.5
	4.80	100.	4.80	100.	4.80	100.	4.80	100.

WOOL CARDING AND CARDING MACHINERY IN EUROPE.

BY GUNNAR NILSSEN, Aalgard pr Stavanger, Norway.

PREPARING STOCK FOR FINE YARN.

The burring of wool is not practiced much in Europe. Burry wools are as a rule carbonized, and there are very few spinners who carbonize their own material. Botany noils are used carbonized and uncarbonized. For certain classes of piece-dyed woolens, it is next to impossible to avoid carbonizing in the piece, even if carbonized stock is used. Manufacturers are therefore not very particular if the material contains some vegetable matter, if it does not retard the process of manufacture.

Fine wastes and the different kinds of "laine renaissance," as shoddy is called in French, used in the manufacture of fine woolens, should be well carbonized. Hard, oily cotton threads, which are generally found in uncarbonized stock, make the spinning of fine counts difficult, and often cause holes, when carbonized in the piece.

If the wool contains dirt or sand, it should be put through a shake willow or some other dusting machine. There are quite a few different makes of these machines. Fig. 1 shows a shake willow with a self acting feed and delivery motions. This is a very good machine, as it treats the wool gently and cleans it thoroughly. Fig. 2 shows a patent combined dusting and mixing picker with delivery motion. Fig. 3 is an oiling and mixing picker with automatic feed and fan to draw off the dust.

Supposing now the stock to be ready and opened up, the batch is laid out in as many layers as the blend requires, taking care to have it even at the corners. Five per cent. of oil and ten to fifteen per cent. of water should be sufficient; on dyed wool, up to seven per cent. of oil and eighteen per cent. of water. If we have an ordinary "tenter-hook willey," the batch is put through two or three times as deemed necessary.

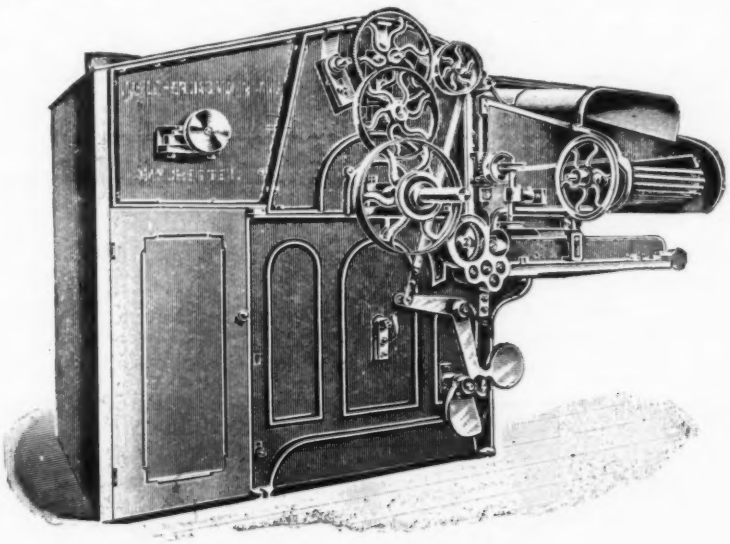


FIG. 1.

A standard set of cards for carding fine wools by the Continental system consists of three separate engines, connected by automatic hand feeds or by lap feeds. In any case either the two first or the two last machines are connected by automatic hand feeds. The width mostly recommended by card builders is 70 inches on card wire, although cards 80 inches wide are quite often made. The first breaker is of course supplied with an automatic feed. These are made by all card makers. There should be

a lattice apron opposite the spike apron and a roller at bottom of hopper. This keeps the wool constantly turning round, and prevents the spike apron from combing out the long wool first, in blends made up of long and very short stock, Fig. 4.

The first breaker often has a breast attached, consisting of two feed rollers and a clearing roller below, tumbler taking wool to cylinder, two pairs of workers and strippers all with metallic wire, and one tumbler of ordinary card clothing taking the wool to the card.

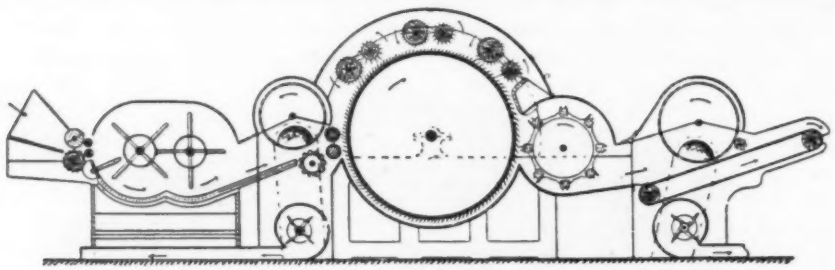


FIG. 2.

injure the card clothing. These are shown in the section drawing of a first breaker, Fig. 11. In front of the first stripper on the breast a steel plate extends across the card, to take up impurities dropping from the stripper, Fig. 5. The first and second strippers on all three cards also have tin trays fixed in front. These trays are kept clean by a knife moved forwards and backwards across the card by a double screw spindle. The knife is pivoted, has a top weight and is tipped at either end. Going forward it scrapes the bottom of the tray, pushing the

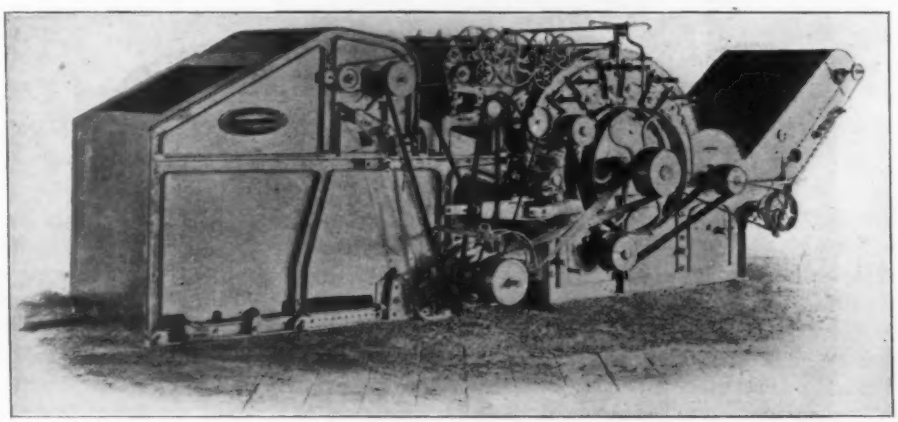


FIG. 3.

The usual arrangement of lickers in for carding fine wool is one to three cylinders with metallic wire and requisite rollers. Burring fans are not much used on woolen cards. Burrs will at once be broken when coming into contact with metallic wire used on breast of woolen cards. Clearing knifes are, however, fixed under the cylinders or tumblers to take out hard lumps that might impurities in front where they at last drop down on the side of the card, Fig. 6.

A different mechanism for the same purpose consists of a slowly revolving shaft on which is fixed a radial projecting knife, which rolls the waste falling on plate into a roll, Fig. 7. This little fixture is quite useful, and is put on most cards now made. It is of course detrimental to have the impuri-

ties continually carried back to the cylinder, especially where the bottom of cylinder is covered in, as the impurities get no chance to drop down.

The cards should of course be supplied with grids or covering underneath the cylinders, although this is not quite so essential as when coarser wool is carded. For very fine work the cards sometimes have six pairs of workers and strippers. Five is however the number generally used.

LAP FEEDS.

Two kinds of lap feeds generally come into consideration for fine wool carding, long

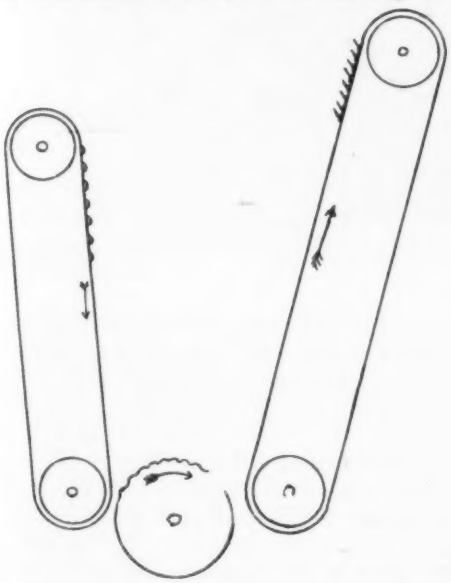


FIG. 4.

lap feed, already described in a previous article, and the film breaker lap feed. Long lap feeds in connection with automatic feeds are supplied with a counter, which after a desired number of layers makes a signal.

FIG. 5.

Feeds of this kind which, after the desired thickness of laps is reached, break it and roll it up automatically, are also used, Fig. 8. Lap breakers and lap drums are still used in a few mills.

The film breaker builds the lap on somewhat the same principle as the Blamire feed. The fibers, however, are parallel with the direction of the motion of the lap. The film of wool from the doffer is carried on an apron to rollers, and down between oscillat-

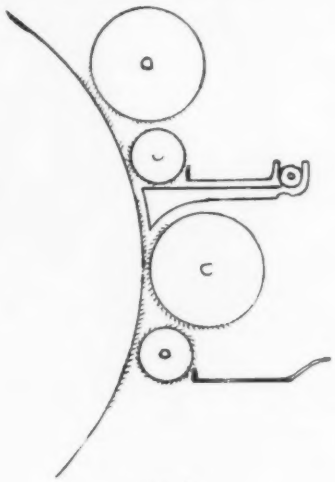


FIG. 6.

ing lattices or rollers swinging backwards and forwards. At the extreme end of the motion, the fiber is broken and deposited in layers on a slowly moving apron, where the

FIG. 7.

lap, after passing under press rollers, is rolled up, as shown in the section of second breaker, Fig. 12. This feed makes a good lap and takes up very little room. Its advantages over the long lap feed are, that the building of the lap is continuous, and that the lap can be taken of any desired length. It does not take up half the room occupied by the Blamire feed, and the fibers are parallel with the direction in which the lap is fed into next card. This feed will, however, as is also the case with the long lap feed, cause trouble, if loose coarse wool is carded. If a lap feed is attached to the first breaker, two laps are put on the feed table of the second breaker, to secure evenness and good mixing, Fig. 12.

For fine work the second breaker and finisher card often have only two pairs of feed rollers or lickers in, delivering the wool direct to the swift. Two pairs of feed rollers or one pair and a tumbler are also used. This will of course save the wire on the card to some extent. The second breaker and finisher card have the same number of workers and strippers as are on the first breaker.

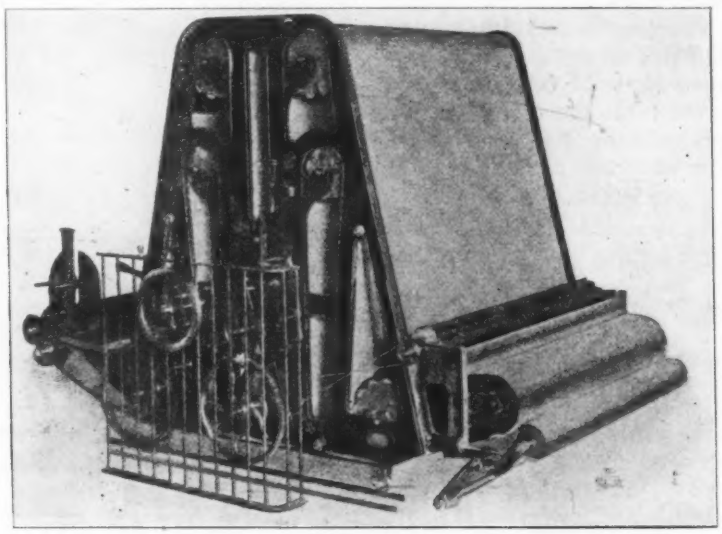


FIG. 8.

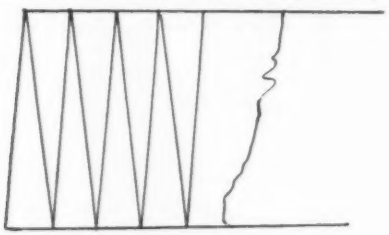


FIG. 9.

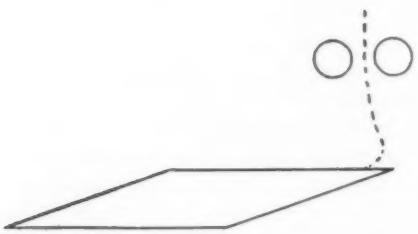


FIG. 10.

After leaving the doffer of the second breaker, the film of wool is carried by a lattice apron and goes down between oscillating lattices, rollers or lattice-aprons, which fold it in layers on a lattice-apron traveling at right angles to the card. By giving the oscillating rollers a certain motion, or by having the front end of the lattice apron about six inches further away from the doffer than other end is the sides of the band are tapered down. When doubled on the feed table of the finisher card, the tapers of the band will overlap each other and form a layer of uniform thickness, Figs. 9 and 10. After leaving the lattice apron, the band is carried up between aprons on top of the apron and down between lattice aprons to be finally doubled across the feed table of the finisher card. Change wheels are provided in order to adjust the overlapping of tapers and width of folds across feed table of finisher card.

A broad band feed is made to transfer the band between the cards placed side by side, and also between cards placed in one row. The claims for this feed are that it feeds fibers parallel to the following card, that it mixes or blends the wool very well, that it will make as even a roving as a lap feed and that it is automatic.

The finisher card is usually made like the second breaker, the film of wool taken from

doffer passing into a tape condenser. In the Continental system doffers are always stripped by combs; stripping rollers are rarely used. Some carders have the first and second breakers connected by a narrow band feed, like the Scotch feed; the second breaker and condensing card, by a broad band feed.

With the narrow band feed the fibers are parallel lengthways to the band, and when doubled on the feed table of the following card, will lie at right angles to the direction in which they are fed into the card.

In a large mill where five or more sets of cards are worked, I should prefer to have all three cards connected by broad band feeds, if fine or medium wools or stock of fairly good length is worked.

Figs. 11, 12 and 13 show a set of cards used for short medium wools and half wool. To the first breaker some sort of a modified breast is attached. A so-called canal band feed is transmitting wool between first and second breaker. The film of wool is folded on a lattice apron traveling in a canal or chute. This band feed puts fibers half crossed on the feed table of the second breaker, and should be an improvement on the ordinary narrow band feed. A film breaking lap feed is attached to the second breaker. The finisher card has a double lap feed and a four spool rubber tape condenser.

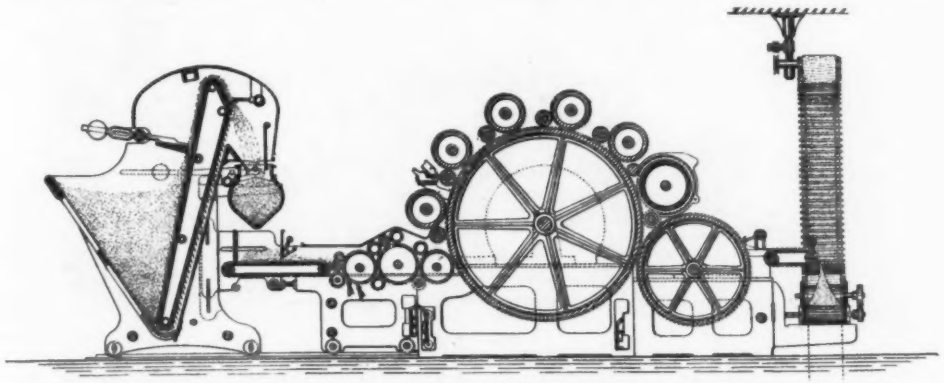


FIG. 11.

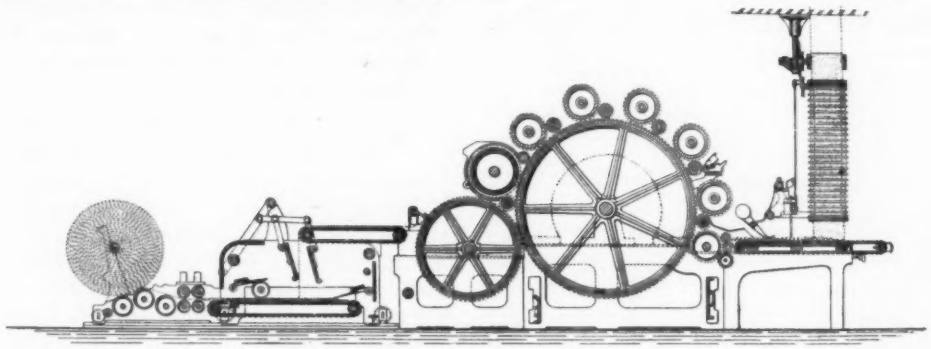


FIG. 12.

The speed of the card cylinders on wool should not exceed 190 revolutions per minute. The cylinder clothing should be 26, 28 and 30 wire; doffers, 28, 30 and 32 wire, Continental numbering, for very fine wools. For ordinary fine wool it would be better to use wire two numbers lower. The so-called "sectoral" card wire is used by some fine wool spinners. This wire is not round, but is like a truncated cane.

Diameter of cylinders for fine wool card-

ing, 48 inches; doffer, 26 inches. On cylinders of this size only 5 pairs of workers and strippers are used. Width of card on wire, 70 inches. Spinning three to seven or eight run, 175 to 180 good ends should be taken from the condenser. This gives a 14/32 to 13/32 inch pitch.

For finest counts up to 200 good ends are delivered by condenser on this width. This very fine pitch, 11/32 inch, necessitates a six tiered rubber condenser in order to get the ends of roving far enough apart.

(To be continued.)

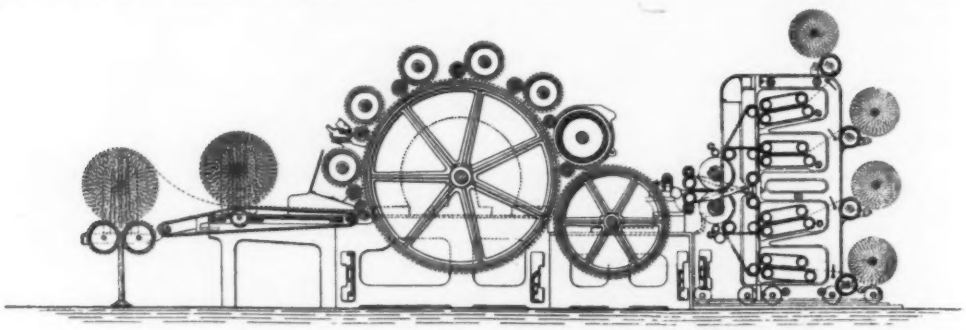


FIG. 13.

NOTES ON COTTON MANUFACTURING.

BY ROBERT CORNTHWAITE.

(Continued from November)

TESTING SINGLE THREAD.

Before testing yarn for strength the exact count should be known. It is more convenient to test a double thread than a single one, as it has only to be tied up once, at D. The result, if divided by 2, is the strength of one thread. The degree of elasticity must not be divided by 2. Pass the yarn over the top hook, C, and tie up both ends to the bottom hook, D, in order to get the same tension on all the threads. Take the block, E, from under F, and note how far the pointer drops. It may come down four or five points. This must not be taken from the total indicated elasticity. The block, F, and hook, D, weigh one ounce and are required to take up the slack in the yarn and make the tension uniform at the beginning of the tests. The bottom end of the pointer rests in a hole in the block, F, behind which is a scale, G, graduated to tenths of an inch. As the weights are put on the block, F, the yarn stretches and the pointer goes down. The pointer must be watched closely to determine at what point the thread breaks. Only 1/4 ounce weights should be put on when the thread is getting near the breaking point. When the thread breaks, the sum of the weights gives the breaking strength and the elasticity is shown at the same time. Deduct the tension point from the total points. If the thread breaks at 1.7, then: 1.7 — .4 = 1.3, elasticity. If the thread breaks at 1.8, then: 1.8 — 5 = 1.3, elasticity. Fifty-four inches of yarn is tested so that the indicated elasticity will correspond with tests on Goodbrand's machine.

BLEACHED YARN.

During the process of bleaching, yarn will lose in weight from 4 1/2 to 7 1/2 per cent., according to the cleanliness of the cotton, as all leafy matter is dissolved and washed out. As the yarn shrinks a little in length by bleaching the strength does not decrease in proportion to the loss of weight. Two and one-half to 4 per cent. is as much as we expect yarn to lose in strength by bleaching. Its elasticity remains about the same as in the grey. I am not going into the details of bleaching, but will say that the acid must be thoroughly washed out of the yarn or the process of tendering will go on while the warps are being woven. Should the pieces in the finishing process be pressed between hot iron plates, as was the case with some Bradford goods that came to the writer's knowledge, where the acid had not been well washed out, the pieces will become quite ten-

der, although no tenderness was noticed while the warps were being woven.

Therefore, first know the strength of the grey yarn and after bleaching again test the strength to see that the yarn has not been weakened by bleaching. A sample should then be put in an oven for about an hour at about 250° F., and afterwards allowed to cool. Then test, and if by this last test the strength of the bleached yarn is found to be equal to the first, no weakening of the yarn is likely to follow.

TWIST, STRENGTH AND ELASTICITY OF YARN WITH VARIOUS AMOUNTS OF TWISTS.

RING WARP YARN MADE FROM COMBED GOOD FAIR EGYPTIAN COTTON.

TABLE 1.

	Twist Constants									
	Counts	Square Root of Counts	Twist in 1 inch	Breaking Strength lbs.	Twist in 1 inch	Strength lbs.	Twist in 1 inch	Breaking Strength lbs.	Elasticity	Twist in 1 inch	Strength lbs.
½ lea	20s	4.472	13.416	56¼	16.770	61½	19.001	64	2⅛	21.242	62¾
½ lea	24s	4.899	14.697	47½	18.371	52¼	20.821	54	2	23.270	53
½ lea	28s	5.292	15.876	38½	19.845	42½	22 491	44	1⅞	25.137	43
½ lea	30s	5.472	16.431	35¼	20.539	40	23.277	41½	1¾	26.016	40½
½ lea	32s	5.657	16.971	34½	21.214	37½	24.042	39	1⅝	26.871	38¼
½ lea	36s	6.	18.	30½	22.500	33¼	25.500	35	1½	28.500	34¼
1 lea	40s	6.325	18.975	52	23.719	57¾	26.881	60	1⅜	30.043	58¾
1 lea	45s	6.708	20.124	45	25.155	50	28.511	52	1¼	31.863	51
1 lea	50s	7.071	21.213	37¾	26.516	42¼	30.052	44	1⅛	33.587	43
1 lea	60s	7.746	23.238	28¾	29.048	32½	32.920	34	1⅛	36.793	33

This Table gives a standard for good warp yarn for Bradford goods.

GOOD, FAIR EGYPTIAN, CARDED LIGHT, RING YARN FOR WARPS.

TABLE 2.

	Counts	Constant 4 1-4 Twist	Strength lbs.	Elasticity
½ lea	20	19.001	59	1⅞
½ lea	24	20.821	50	1¾
½ lea	28	22.491	40½	1⅝
½ lea	30	23.277	38	1½
½ lea	32	24.042	36	1⅜
½ lea	36	25.500	32	1¼
1 lea	40	26.881	55½	1⅛
1 lea	45	28.511	48	$1\frac{1}{16}$
1 lea	50	30.052	40½	$1\frac{1}{16}$
1 lea	60	32.920	31½	$1\frac{1}{16}$

AMERICAN CARDED YARN.

GOOD, MIDDLING AMERICAN CARDED, RING YARN FOR WARPS.

TABLE 3.

		Constant 3 3-4 Twist	Strength lbs.	Elasticity
½ lea	20	16.770	55	1¼
½ lea	24	18.371	46	1¼
½ lea	28	19.845	37	$1\frac{3}{16}$
½ lea	30	20.539	35	$1\frac{3}{16}$
½ lea	32	21.214	33	1⅛
½ lea	36	22.500	30	1⅛
½ lea	40	23.719	51	1⅛

The above yarn is such as is used for a good quality of printing cloth.

GOOD MIDDLING AMERICAN COTTON CARDED MULE YARN FOR WARPS.

TABLE 4.

		Constant 3 3-8 Twist	Strength lbs.	Elasticity
½ lea	20	15.093	51	$1\frac{3}{16}$
½ lea	24	16.534	42	$1\frac{3}{16}$
½ lea	28	17.860	34	1⅛
½ lea	30	18.485	31½	1⅛
½ lea	32	19.092	30½	$1\frac{1}{16}$
½ lea	36	20.250	28	$1\frac{1}{16}$
1 lea	40	21.347	47	$1\frac{1}{16}$

For ordinary quality of Lancashire cotton goods.

WEFT RING YARN.

WEFT SPUN ON THE RING FRAME FROM AMERICAN COTTON.

TABLE 5.

		Square Root of Counts	Twist Constant 3 1-4	Strength lbs.	Elasticity
½ lea	20	4.472	14.534	42½	1⅜
½ lea	24	4.899	15.922	35½	$1\frac{5}{16}$
½ lea	28	5.292	17.199	30½	1¼
½ lea	30	5.477	17.800	28¼	1⅛
½ lea	32	5.657	18.385	26½	1
½ lea	36	6.	19.500	23¾	$\frac{14}{16}$
1 lea	40	6.325	20.556	38	$\frac{18}{16}$
1 lea	45	6.708	21.801	33½	$\frac{13}{16}$
1 lea	50	7.071	22.981	29½	$\frac{11}{16}$

WEFT YARN SPUN ON THE MULE FROM AMERICAN COTTON.

TABLE 6.

	Counts	Twist Constant 3	Strength	Elasticity
½ lea	20s	13.416	40½	$\frac{15}{16}$
½ lea	24s	14.697	34	$\frac{15}{16}$
½ lea	28s	15.876	29	$\frac{15}{16}$
½ lea	30s	16.431	27	$\frac{14}{16}$
½ lea	32s	16.971	24¾	$\frac{14}{16}$
½ lea	36s	18.	22½	$\frac{13}{16}$
1 lea	40s	18.975	36	$\frac{13}{16}$
1 lea	45s	20.124	32	¾
1 lea	50s	21.213	38	¾

TWIST FOR THE FINER NUMBERS OF YARN.

TABLE 7.

Counts	Square Root of Counts	Twist Constant	Twist	Strength lbs.	Cotton
70s	8.367	× 3½ =	29.285	25	Fancy Egyptian
80s	8.944	× 3 7/16 =	30.745	22½	Fancy Egyptian
80s	8.944	× 3⅜ =	30.185	24¾	Sea Island spun from rovings used for 100s
80s	8.944	× 3 5/16 =	29.627	27¼	
90s	9.487	× 3 5/16 =	31.426	23½	Sea Island spun from rovings used for 120s
90s	9.487	× 3¼ =	30.833	25¾	
100s	10.009	× 3¼ =	32.500	22½	Sea Island spun from rovings used for 120s
100s	10.000	× 3 3/16 =	31.875	24¼	
120s	10.955	× 3 3/16 =	34.919	17	Sea Island spun from rovings used for 140s
120s	10.955	× 3⅛ =	34.234	18¾	
140s	11.832	× 3⅛ =	36.975	15	Sea Island spun from rovings used for 160s
140s	11.832	× 3 1/16 =	36.235	16½	
160s	12.649	× 3 1/16 =	38.737	12½	Sea Island
180s	13.417	× 3 =	40.251	11	Sea Island
200s	14.142	× 3 =	42.426	10½	Sea Island

SCHLOESING TESTS OF MOISTURE IN TEXTILES.

Manchester, Eng., Nov. 25, 1908.

Editor Textile World Record:

Will you allow the appearance in your journal of a very short appreciation of your work in translating into our common tongue the original paper of M. Schloesing? The scientific accuracy of his methods, their direct bearing upon the true interests of commerce and the practical value which such standardization always gives, have long called for some one to bring this research out of obscurity so far as readers of English were concerned.

As concerns wool, silk and wood pulp, the standards of moisture have been for many years fixed by the trades concerned, and it would now be impossible to carry on those industries without them, but in the cotton industry we are still lagging far behind, the standard of moisture being by no means universally or even generally accepted. In urging the adoption of some standard, it is of course advisable for it to be scientifically correct as well as at the same time practically applicable to its purpose. Herein lies the immediate value of Schloesing's work. A more suitable time for its publication could scarcely have been chosen than the present, for questions of moisture are more than ever forcing themselves upon manufacturers and upon the whole industry, and they require to be solved in the light of the most careful and accurate research.

It is scarcely to be expected that the industry concerned will see at a glance the value of the service you have undertaken and so well carried out for it, but those of us who are accustomed to looking well ahead who are not entirely absorbed with the buying or selling of cotton, cannot fail to appreciate that service and it is no less a duty than a pleasure for me to attempt to express the gratitude with which I am sure your publication will be received.

Yours faithfully,

J. H. Lester, M. Sc., F. F. C.

Cotton Statistics.

Editor Textile World Record:

Are there any statistics that would give the number of bales of the different grades of cotton marketed of last year's crops, that is, the number of bales of middling, strict middling, etc. If so, I should like to know the quantities of each grade.

Wilcox (1030).

There are no statistics of the quantity of each grade of cotton grown or marketed. Cotton is graded and classified by the buyers and sellers and in many cases the grade of the same lot of cotton is changed while passing through different hands. The amount of each grade passing through the New York Exchange or other cotton exchange might be determined, but this would bear but a remote relation to the proportions of the different grades in the whole crop.

Questions and Answers

Under this head we undertake to answer, free of charge, to the best of our ability, any pertinent inquiry pertaining to textile matters received from any regular subscriber to the TEXTILE WORLD RECORD. Questions should be stated as briefly and concisely as possible. Inquiries pertaining to textile processes, machinery, improvements, methods of management, the markets, etc., are especially invited, as well as any legitimate discussion on the views expressed. All inquiries must be accompanied by the name of the person inquiring ,not for publication, but as an evidence of good faith.

For reply to questions that are not of general interest to readers of textile journals, such as those relating to the composition of yarns, analysis of fabrics, etc., we will charge the enquirer with the cost of the investigation.

The Analysis of Cloth.

Editor Textile World Record:

I wish you would state the advantages of using a sample with an area of 1/300 of a square yard (4.32 sq. in.) in analyzing cloth, as compared with a sample with an area of 1 square inch.

Lawrence (1032).

The use of the larger sample (4.32 sq. in.) reduces the effect of variation in weighing. Take for example a variation of 1/10 grain. If made with a sample of 1 square inch it would mean a difference of nearly 1/2 ounce (.45 ounce) per yard 55 inches wide. If made with a sample of 4.32 square inches, it would result in a difference of only 1/10 ounce per yard 55 inches wide. A variation of 1/2 ounce per yard is a serious matter, whereas 1/10 ounce is negligible. The advantage of the larger sample in this respect is clearly shown when calculating the sizes of the yarn. Suppose, for example, that we have a sample of cotton cloth with 52 threads of warp per inch, the warp yarn in 4.32 square inches weighing 2.6 grains. The yarn count is 20 (52 ÷ 2.6). If by an error of 1/10 grain the weight was taken as 2.5 grains, the calculated yarn count would be 20.8 (52 ÷ 2.5). Thus a variation of 1/10 grain in weighing the yarn in the 4.32 inch sample would make a difference of only .8 in the cotton count. If, on the other hand, a sample of 1 square inch was used for analysis the warp yarn would weigh .6 grain, making the yarn count 20. If by an error of 1/10 grain the weight was taken as .5 grain, the calculated yarn count would be 24.1. Thus a variation of 1/10 grain in weighing the warp yarn in the square inch sample would make a difference of 4.1 in the cotton count. The effects of variations with the smaller sample are so serious as to make the results wholly unreliable in practical mill work. Of course such variations are not serious in school work, but if, as is often the case, a man is charged with this responsibility of making large quantities of valuable goods to match a given sample, he will find that the use of so small a sample as one square inch will lead him into serious difficulty.

Another important advantage in the use of a sample of 4.32 square inches is the greater ease of calculation. Let us take, for illustration, a sample of cotton cloth with 48 threads per inch in the warp and 52 in the filling. The yarn weights are as follows: Sample, 4.32 square inches: Warp, 12.2 grains; filling, 9.9 grains; total, 22.1 grains. Sample, 1 square inch: Warp, 2.8 grains; filling, 2.3 grains; total, 5.1 grains. The calculations for weight per yard and for yarn counts would be:

Sample of 4.32 square inches:

(22.1 × 55) ÷ 52½ = 23.1 ozs. per yd. 55 in.
48 ÷ 12.2 = No. 3, 9, warp.
52 ÷ 9.9 = No. 5¼, filling.

Sample of 1 square inch:

55 × 36 = 1980.
(1,980 × 5.1) ÷ 437½ = 23.1 ozs. per yd., 55 in.
(48 × 7,000) ÷ 2.8 = 120,000.
120,000 ÷ 36 = 3,333.
3,333 ÷ 840 = No. 3, 9, warp.
(52 × 7,000) ÷ 2.3 = 158,261.
158,261 ÷ 36 = 4,396.
4,396 ÷ 840 = No. 5¼, filling.

The calculations with the larger sample require 95 figures; with the smaller sample, 249 figures.

The only case in cloth analysis in which the use of a square inch of cloth is justifiable is when the sample available is too small to

yield the larger area. Time and accuracy are too important in mill work to neglect the advantages of the straight line system of analysis, based on an area of 1/300 square yard (4.32 sq. in.). This area is obtained by cutting the sample 2.4 by 1.8 inches. The sample can be cut with a die, or with shears around a tin, pasteboard or other pattern of the required size.

Uneven Color on Hosiery.

Editor Textile World Record:

Will you kindly advise me what is the cause of the uneven dyeing on the enclosed sulphur black stocking. You will notice the brown spots appearing at intervals. We dye in a paddle machine with 500 gallons water, 7 lbs. black and 10 lbs. sulphide of soda, 2 lbs. soda ash. Rinsed in 4 waters and let stand over night before finishing.

Lenoir (1034).

It is difficult to locate the cause of "Lenoir's" difficulty unless one is acquainted with all the conditions. From the appearance of the sample I judge that the goods are not thoroughly penetrated by the dye. The dye has not been properly dissolved to allow it to penetrate the fabric. This is evident from the fact that the dyestuff is very loose. By rubbing the goods with a piece of white muslin the dye crocks badly. "Lenoir" does not state whether the goods are put in the machine in a dry state or in a boiled out condition. I do not consider this a very important matter as I have tried both ways and find no difference on a soft fabric like the sample in question. It is not always best to use a machine although a little more work can be got out.

For a number of years I used the open kettle with squeeze rolls on the end, having an endless feed board to carry the goods to the rolls, which squeezed out the surplus dye and deposited the goods into another kettle filled with cold water to which was added about 1/2 lb. of sulphide of soda. As "Lenoir" has the machine I think by following the following instructions he will get better results. Judging by the amount of dye used I should say it was a concentrated dye and that the sulphide of soda used was of single strength. If so there was not enough sulphide to dissolve the color properly. In that case I would take for 100 lbs. of goods:

7 lbs. Sulphur Black.
14 lbs. Sulphide of Soda.

Dissolve the above in 12 gallons (100 pounds) of water and add a few bucketfuls of the old dye bath at a boil. Mix the solution thoroughly before putting into dye bath. Then add to dye bath 3 lbs. of soda ash and 3 lbs. of salt. Boil the dye bath before entering goods. Enter goods and boil for 3/4 hour. Shut off steam and run for 3/4 hour longer.

For the second bath or rinsing add 1/2 lb. sulphide of soda to the first rinsing water. Then run off and wash through two more waters. Finish in hot water 150° F. with 2 gals. of the following softener:

3 gals. Olive Oil.
40 lbs. Olive Oil Soap.
10 lbs. Sal Soda.

Add 10 gals. of water, boil for 1/2 hour, then add enough water to make 50 gals., using 2 or 3 gals. for 100 lbs. of goods. If "Lenoir" does not get good results by following these directions I should like to hear further from him. I would suggest that he state more in detail how he handles the goods.

Watkins.

Plated Work.

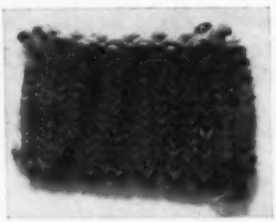
Editor Textile World Record:

I enclose a sample of plated knit goods in which the two colors show in both the raised part and in the recess. I wish you would state the reason for this difficulty and point out a way by which I can prevent the green from showing on the raised part. What I want is to have the purple yarn on the outside of the rib on each side of the cloth and the green between the ribs.

Octavia (1021).

Upon examination of the sample of plated work I find that a flat machine is being used. This stitch is what is known as full cardigan, knitting double on both plates. That is, when the carriage passes from right to left, the needles on the back plate hold on to a second course of stitches and the needles on the front plate throw off their double stitches to single. When the carriage passes from left to right the back

needles throw off the single stitch and the front needles hold a second course. In knitting a fabric of two threads of different colors or material on a plain one feed circular ribber, it is easy to make one of the threads show on both sides so that the outside and inside of the cloth will be almost



SAMPLE OF PLATED WORK.

alike, while the other thread will be on the interior of the fabric and nearly out of sight. A circular ribber goes around in the same direction, but it is different with a flat machine. A flat machine goes back and forth, especially when using the full cardigan stitch. When the two threads pass down through the yarn carrier over the plates from right to left, one thread will be slightly in advance of the other and as the stitches are formed one thread will be thrown to the outside and the other to the inside of the back stitches. When the carriage passes back from left to right the thread that was in advance going to the left is now in the rear of the other, and consequently is thrown to the inside of the front stitches, instead of the outside as was the case on the back needles. This will make the face of the cloth one color and the back the other. I have never seen any cloth made as "Octavia" desires, but possibly it can be done.

It might be accomplished if a device were put on the machine to give the yarn carrier a half turn every time the carriage got to the end of its stroke, thereby having two holes in the yarn carrier and putting a thread through each one. For example, suppose we are knitting with purple and green yarn, as in sample. While going from right to left, the purple yarn will be in advance and as the carriage starts back the yarn carrier will turn half way around, bringing the purple yarn again in the lead. It would then be thrown to the outside of the stitches on both plates. It is necessary to have the yarn carrier turn forward and backward and not in one direction continually, or the two threads would soon be twisted together. I have never seen such an arrangement, but believe it could be worked out by a skillful machinist. Winnebago.

The inquiry states that the purple yarn is to show on the raised part and the green yarn in the recess or between the ribs. The sample not only shows the reverse to be the case, but the purple yarn also shows at intervals in the raised part. If the threads are reversed and the purple yarn run where the green now is, this will put the purple yarn where the green now is. In this sample the green is a heavier yarn than the purple and it is very difficult in plated knitting to cover completely one yarn with the other unless the yarn to be covered is lighter yarn than the other.

The purple yarn showing on the raised part where only the green yarn appears may be caused by the yarn guide. The hole through which the yarn passes may be either slightly worn on one side, or it may be a little rough on the underside, either of which will cause the purple yarn to be thrown out of its direct feed to the needles. It may also be due to the yarn guide not being adjusted right. It may be set a little too low so that the yarn, as it is fed to the machine, lays across the needles in such a manner that the latch in closing slightly turns over the purple yarn onto the green yarn. When the stitch is cast off this leaves the two threads mixed as in the sample, instead of one being entirely behind or covered by the other.

Flat rib machines of the class on which sample sent is made have needles running so close to the underside of the yarn guide that a groove is worn into the yarn guide with a consequent roughing of the yarn guide. This roughing causes the yarn in the plated work to get out of its proper place.

Lafayette.

Keeping Dye Formulas.

Editor Textile World Record:

What is the best system of keeping a record of dyeing formulas for ready reference in the dye house? We would like to have you outline a system adapted to a dye house coloring raw stock, yarn and pieces. I have been keeping my formulas in small hand books, but find difficulty in selecting the right formula from the large number that have accumulated. Franklin (1026).

My method of keeping a record of dye-house recipes is as follows: The different shades are designated by number. If raw stock, warps and pieces are dyed in the same dye house, there should be three books, one for each line of work. The recipe for each color is written on a page whose number corresponds to that of the respective shade. For example, the recipe for No. 18 shade would be on page 18 of the recipe book, which may be either tight or loose leaf. If the shades are designated by names instead of numbers the recipe book must be indexed so as to enable the dyer to find quickly any recipe that may be wanted. Every dyer should have two sets of recipe books, one to

20

\# 20 Black

Date	Order	Style	Lbs	Sulphur Black	Soda	Sodium Sulphide	Salt	Total Cost	Cost per lb.
Nov. 16	500	6	600	50	12	100	60		
" 18	720	6	400	32	8	66	40		
" 20	300	6	600	50	12	100	60		
		Totals	1600	132	32	264	160		
		Cost of Drugs		33.00	0.96	3.96	0.80	38.72	0.0242

FIG. 1.

be kept in some safe place at home and the other at the dye house. The recipe book kept at home may be of large size, but for dye house work the book should be small enough to be easily carried in the hip pocket.

One dyer whom I know had for dye house use a set of small books each accommodating 100 recipes. The first book contained recipes 1 to 100; the second from 101 to 200. These books were so small that several could be carried in his vest pocket at one time, forming a very convenient record.

The proportions of the dyes and chemicals for every recipe should be given in pounds and ounces and not by pailfuls and dipperfuls, as is sometimes the case where standard solutions are used. Some mills have a very good system of cost finding which also serves as a recipe book for the dyer. This has much to recommend it. Besides supplying a recipe book it shows at a glance the cost per pound of any shade. This method of keeping a record of recipes and cost is illustrated at Fig. 1.

The total quantity of drugs used can be reported weekly or monthly. By dividing the total cost by the production in pounds, the cost per pound for any given period is easily found. This system can be applied to all lines of work, whether raw stock, warps or cloth. Some dyers also keep a record of the cost of labor on each shade so that the actual cost for both drugs and labor is known at all times. If carefully carried out this system is preferable to any other.

Dunloe.

The best system for keeping dyeing formulas for raw stock is to take four ounce samples of the dyed and undyed stock and place them in small, square boxes, which are numbered. Do each sample up with formula and cost of dyeing. The boxes must be made so the light cannot get to the dyed stock and the dyer can tell if there is a change in the grade of stock. Frequently the recipe will have to be changed if the grades differ. It is seldom that the same results are obtained with the same formula. After the dyed stock has been carded take an ounce sample and paste each end on to thick white paper, putting record of formula and date and grade of stock under each sample. File away in book form for ready reference.

On piece dyed goods, attach the formula to a piece of the dyed goods, 3 inches wide and 6 inches long. Put the samples in a book. State whether it is made from all wool or mixed goods, date and how long it takes to dye.

On yarns reel off a sample, putting on a tag bearing number of yarn and stock it is made from, formula and date. Put these in a book. The books should be of ample size as it is impossible to keep track of dye formulas by keeping them in small hand-books. I have found that there is always more or less change in the stock. By keepng on the light side of the shade better results will be obtained. Devon.

KNITTING DEPARTMENT.

For Knitting Mill Machinery, Equipment and Supplies, see pages 236 to 253. Also Buyers' Index.

KNIT GOODS SITUATION.

The trade in knit underwear for the past four weeks has been of good volume. Manufacturers, jobbers and retailers have all been very busy and the goods have gone into consumption so rapidly that stocks are depleted, and the indication now is that jobbers and retailers will carry over less of this class of merchandise for this year, than for several seasons past. Manufacturers state they have never been called upon to hasten delivery of goods so much, or to make so many express shipments, as during the past month. It is not an unusual thing to be asked to express solid cases of goods where the transportation charges must have amounted to from 5 to 10 per cent. of the value of the goods. The shortage is not confined to any one class of knit underwear, but extends generally throughout the line, with the possible exception of ladies' 25 cent ribbed goods and men's 50 cent fleeces. These two lines have been delivered more promptly during the season, and for some weeks it has been possible to procure New York State made goods, 6 pound ladies' ribbed at $1.75, and 7 pound goods at $1.90. The prices of men's fleeced have been lowered since our last issue.

The Harder branch of the Union Mills Co. have changed their price on 13 pound line to $3.50, and on the Union fleeced from $4.00 to $3.75.

The Highrock people have reduced their prices as follows:

Their $4.00 line to $3.75,
Their $3.85 line to $3.65,
Their $3.75 line to $3.50.

Mr. L. E. Harrower has since made his price $3.50 on the 13 pound goods, while the sub-standard lines, such as MacKinnon, Malcolm and Sloan's are offered at $3.12 1/2 to $3.37 1/2.

Ladies' combed ribbed goods have been in good demand during the season, but notwithstanding this, the manufacturers of these lines have reduced their prices on 8 pound silk trimmed goods from $3.62 1/2 to $3.50 and on combination suits from $7.25 to $6.75.

A very strong tendency toward bleached goods for women is noted and we learn from jobbers that last year placed orders for 50 cases of peeler to 25 cases of white, that they will reverse their orders for 1909. This tendency toward white goods is also noticed in worsted ribbed lines and the indications are that manufacturers will be called upon to make more white than silver grey another season.

Spring business has shown some improvement during the past month, but not enough to cause any alarm as to the ability of the mills to take care of all the orders they get. By many it was believed that with election over, a boom would begin immediately, but up to the present time it may be described as only increased activity. Some Western buyers have been east and have increased their early purchases to some extent, but if anything like a normal spring business is to be done it seems as if there must be some large orders to be placed between now and January 1st. We learn of some women's low end ribbed goods being advanced slightly, but this only occurs in isolated spots and the market on the whole is described as being a little draggy.

Some few lines have been opened for fall, 1909, but there seems to be a tendency on the part of most buyers to delay operating to any extent until after January 1st. Some excellent values are shown in women's fine stitch bleached carded goods with mercerizer trim to weigh 7 1/2 pounds at $3.25, and in combed yarn goods, weighing from 7 1/2 to 8 pounds, one is able to buy some pretty silk trimmed goods at $3.50. Misses' shaped ribbed goods made of carded yarn that was sold last season at $1.90 and $2.00 are shown

for 1909 at $1.75 for the ordinary sizes and $1.90 for sizes 12, 14 and 16. The combed yarn lines shown last season at $2.50 and $2.75 are being offered for next season at $2.25 and $2.50.

Women's carded yarn tuck stitch combination suits, weighing 10 pounds to the dozen, are shown at $3.50 to $3.62 1/2, and the fine stitch suits weighing 11 pounds to the dozen are offered at $5.00 per dozen. Fine stitch suits made of combed yarns in peeler and bleach are being shown at $6.75 to $7.00, according to the trimming desired.

Men's 12 pound ribbed shirts and drawers have been offered at $3.35 for early delivery. These are made in two thread yarns and it is believed that the single thread goods will be sold at $3.25 for this same weight.

HOSIERY.

A decided improvement has taken place in the number of hosiery orders received by jobbers since election, but advance spring orders, while up to normal in number, are not so in amounts.

Retailers are buying the assortments, but are very conservative in regard to quantities, and do not seem to share in the almost general belief that there will be a scarcity of merchandise when the spring season opens.

Colors of every description are bought eagerly in all grades from those to retail at 15 cents and upwards, and many retailers are anxious to get their orders on them delivered at once. The light weight mercerized colored numbers jobbing at $2.00 to $2.15 are especially popular, and larger orders are placed on those jobbing at $2.85 to $3.00 than heretofore. Coin dots in assorted sizes and on a wide range of colored grounds; extracted patterns in boot and allover; plaids and jacquard effects are being shown for present delivery and are meeting with good success. Lace stockings are good in some sections, but the volume of business on them is comparatively small. German made boot laces can now be landed as low as $2.00.

Some progressive jobbers and manufacturers of silk hosiery are showing what they term "directoire" stockings. One very effective pattern shows a series of black with blue bow knots on the boot with two black silk tassels suspended from the centre of each knot. Another is a black opera with a "V" shaped insertion in color running on one side from the heel to the top of the stocking, across which there is a cross gartering of silk ribbon with buttons holding it in place. These retail as high as $25.00 a pair.

Stockings made with three and four inch welts in place of garter tops are shown in both domestic and imported makes in cotton and lisle. Trunk or flare tops are also made in this country now for the jobbing trade, and those made here, as well as those imported, are not as long as when they were first made several years ago, 28 inches being about the average length. This style of stocking seems to be gaining in popularity and gradually making a place for itself.

An advance has taken place on some low priced cotton hosiery and a few manufacturers report that they have all the business that they can take care of up to April, May and June.

Prices on wool hosiery for fall, 1909, are lower, where qualities remain the same, but the majority of manufacturers have chosen rather to improve the quality and let the price remain the same and this latter method is the one most generally favored by the jobber.

A committee composed of hosiery manufacturers will appear before the Ways and Means Committee on December 1, 1908 (the date set for the hearing) and will use their influence to have the tariff raised on the lower price goods from Germany and lowered on the higher price goods, especially fancies.

THE CHEMNITZ MARKET.

The Chemnitz hosiery market has been influenced quite a little during the last four weeks on account of orders received, and prices, consequently, are on a much firmer basis. The orders are not as large as they were a year ago, but they are numerous, and large enough to restore the manufacturers' confidence.

The extremely low priced stock lots have been sold and such manufacturers as still have some stock lots are holding them in the belief that they will get higher prices later.

It is rumored that higher prices will prevail in the course of another month and it seems certain that nothing can be gained in the matter of prices by withholding the placing of orders any longer. The majority of mills are running on full time and with a full complement of hands.

Wage reductions of 15 to 20 per cent. have recently been made, but as the price of cotton is advancing again, and the certainty exists that wage earners will demand their former scale of wages when more orders have been received, this reduction has had no effect on prices.

Orders are being placed more freely on embroidered hose and prospects are much brighter on this class of goods than they have been all season.

Lace boot lisles are selling in fair quantities.

Split feet cotton hose are not to be had any more at cut prices, as all manufacturers of this class of goods are well supplied with orders.

Mercerized hose are said to be as popular as they were last season and while good values can still be had as low as M6.30, they will soon be out of the market.

Fine gauge gauze lisle hose at M4.40 are practically out of the market and cotton goods with lisle finish are offered in their place. In real lisle, only 33 gauge goods are offered.

WEIGHT OF COTTON HALF HOSE.

BY MERRILL.

I have before me the following inquiries: What will one dozen pair men's half hose, size 10, weigh knit from the following numbers of thread: 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15? What is the cost of yarn per day of the different numbers?

It would be difficult to answer the question in its present form as the weight of knit goods depends largely upon the gauge of machines as well as on the number of the yarn. It is possible to knit several different numbers of yarn on the same machine. Sizes 6, 7, 8 or 9 could be successfully used on a 120 needle, 3 1/2 inch cylinder, 24 gauge machine, while an 8, 9, 10 or 11 size could be used on a 136 needle, 3 1/2 inch, 30 gauge machine. The weight of a half hose made from a No. 9 yarn on a 120 needle machine would not be the same as a half hose made from the same yarn on a 136 needle or 30 gauge machine. So in order to answer the question satisfactorily it will be necessary to classify first the various numbers by the gauges best suited for the respective number and give the weights accordingly:

Nos. 6 and 7 yarn could be used most successfully on 120 needle, 3 1/2 inch, 30 gauge machine. The weights of half hose, size 10, on this gauge would be about 1 lb. 10 oz. for No. 6 and 1 lb. 8 oz. for No. 7 yarn.

Nos. 8 and 9 yarn should be used on 136 needle, 3 1/2 inch, 30 gauge machine. The weights of half hose on this gauge would be about 1 lb. 8 oz. for No. 8 yarn and 1 lb. 6 oz. for No. 9 yarn.

Nos. 10 and 11 yarn should be used on 148 needle, 36 gauge, 3 1/2 inch cylinder. The half hose would weigh about 1 lb. 6 oz. for No. 10 yarn and about 1 lb. 5 oz. for No. 11 yarn.

Nos. 12 and 13 should be used on 160 needles, 42 gauge, 3 1/2 inch cylinder. Half hose on this gauge will weigh about 1 lb. 5 oz. for No. 12 yarn and 1 lb. 4 oz. for No. 13 yarn.

Nos. 14 and 15 should be used on a 180 needle, 48 gauge, 3 1/2 inch cylinder. The half hose would weigh 1 lb. 4 oz. for No. 14 yarn and 1 lb. 3 oz. for No. 15 yarn.

It must be remembered that these weights may sometimes vary 1 or 2 ounces owing to the yarn being uneven. The weights may be changed by putting in or taking out stock and by loosening or tightening the tension.

The cost of each number of yarn per day will depend largely upon production. Some makes of machines will knit more than others. Some manufacturers run their machines faster than others do. The standard speed of most machines is about 280 revolutions per minute. The coarse gauge machines can be run a little faster than this, while the finer gauges are sometimes a little

slower. The coarser gauges will do more work than the fine gauges as the stitch is coarse and there are not so many revolutions in the coarse hose as in the fine one. With any of the ordinary machines running at a speed of 280 revolutions the production from the various gauges would be about as follows:

	Doz.
120 line, 24 gauge, No. 6 or 7 yarn	= 7½
136 line, 24 gauge, No. 8 or 9 yarn	= 7
148 line, 24 gauge, No. 10 or 11 yarn	= 6
160 line, 24 gauge, No. 12 or 13 yarn	= 5½
180 line, 24 gauge, No. 14 or 15 yarn	= 5

The prices of yarns will vary from month to month, but by taking the quotations for the month of June, I find the cost of each of these numbers per day for one machine to be about as follows:

No. 6, at 16½c. per lb. on 120 line,	$2.02
No. 7, at 16½c. per lb. on 120 line,	1.81
No. 8, at 16¾c. per lb. on 136 line,	1.78
No. 9, at 16¾c. per lb. on 136 line,	1.68
No. 10, at 17 c. per lb. on 148 line,	1.44
No. 11, at 17 c. per lb. on 148 line,	1.38
No. 12, at 18 c. per lb. on 160 line,	1.35
No. 13, at 18 c. per lb. on 160 line,	1.22
No. 14, at 18½c. per lb. on 180 line,	1.15
No. 15, at 19 c. per lb. on 180 line,	1.12

The above figures are given for a medium tension and for machines of standard speed and are, therefore, subject to allowances.

There can be no set weight for any particular size of yarn. The weights depend more on the gauge of the machine than on the size of the yarn. Some knitters knit their goods very tight and firm while others knit slack. The tight goods will necessarily weight more than the looser ones as there must be more stock in the pattern wheel when the machines are knitting tight in order to get the desired size. It is possible to make a half hose on a 180 needle machine, size 10, from No. 14 carded yarn to weight 1 lb. 5 oz. It is also possible to make a half hose on the same machine using the same yarn and to be the same size, 10, to weigh 1 lb. 2 oz., by simply taking out some of the stock and loosening the stitch. It will readily be seen that the weights depend largely upon the knitter as well as on the size of yarn and gauge of machine. In most mills the superintendent gives the boss knitter a table showing the different styles which are to be made on each line of machine, the number and quality of yarn he wishes to use on each style and the weight desired for each style. The knitter can then set his styles accordingly.

AN OPENWORK KNIT FABRIC.

A knit fabric, recently patented, is shown at Fig. 1.

The yarn forming course, 5, is looped into the loops of the preceding course in the ordinary manner; the alternate loops of this course, 5, as, for instance, 2 and 4, are drawn out so as to be double the length of the other loops, 1 and 3, and are joined into the corresponding loops of course, 7. In course, 6, the yarn is passed through loops, 1 and 3, of

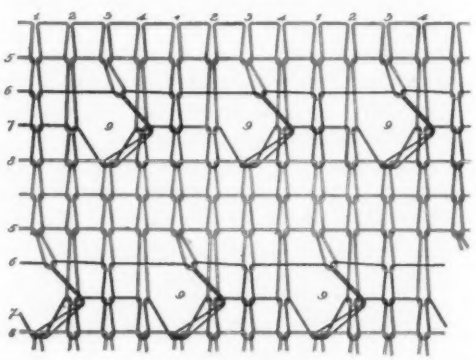


FIG. 1.

course 5, but passes unconnectedly over the elongated loops, 2 and 4, from course 5. Loop, 1, of course, 6, is of the ordinary length and engages with the thread of course 7 in the ordinary manner, but loop, 3, is substantially three times the length of the ordinary loop and, at the center, is extended laterally so that it is engaged by the thread of course, 7, where the latter engages with the elongated loop, 4, of course, 5.

Loop, 1, of course, 7, engages with the corresponding loop of course, 6, and loops 2 and 4, of course, 7, engage with the corresponding and elongated loops of course, 5, in the ordinary manner; but the intermediate

thread connecting loops, 2 and 4, of course, 7, is drawn down and caused to engage with loop, 3, of course, 8, along with the closed end of the elongated and laterally extended loop, 3, of course, 6. This arrangement of the intermediate thread or material connecting loops, 2 and 4, of course, 7, with the elongation and lateral displacement of the intermediate portion of loop, 3, of course, 6, forms an opening, 9, in the fabric. All of the loops of course, 8, are formed in the ordinary manner, and in addition to engaging with loops, 1, 2 and 4, of course, 7, it engages with loop, 3, of course, 6, and also with the intermediate thread or material connecting loops, 2 and 4, of course, 7, also with the loops of the succeeding course.

A KNIT FABRIC.

This fabric, for which a patent has recently been issued, belongs to that class of ribbed knit goods in which a number of wales per inch varies in different parts of the cloth. The texture and method of producing it are described by the inventor as follows:

The object is to produce a ribbed knit fabric in which the change is from the lesser number of wales to the greater number, and in which the change can be readily effected by manipulation of the needles without stopping the machine or requiring the intervention of an attendant. The invention is especially adapted for use in the manufacture of hosiery upon automatic knitting machines.

In the accompanying drawings, Figs. 1, 2, 3 and 4, are views of fabrics which are ribbed throughout, and in which the change is effected from web having the lesser number of wales to the web having the greater number of wales; Figs. 5 and 6 illustrate the arrangement of needles and the course of the yarn in producing the fabric shown in Fig. 1; Figs. 7 and 8 show the needles and the course of the yarn in producing the fabric shown in Fig. 2; Figs. 9 and 10 show the needles and the course of the yarn in producing the fabric shown in Fig. 3; Figs. 11 and 12 show the needles and the course of the yarn in producing the fabric shown in Fig. 4; Figs. 13 and 14, are vertical sectional views of a knitting machine showing the method of transferring a stitch from one needle to another.

In Figs. 1, 2, 3 and 4 of the drawings (a) represent plain stitch wales which extend throughout both webs of the fabric; b, rib stitch wales which also extend throughout both webs; c, composite wales having plain stitches in one web and rib stitches in the other; d, introduced plain stitch wales; and e, introduced rib stitch wales. Plain stitch wales are those having all of their stitches drawn to the face of the web; rib stitch wales are those having all of their stitches drawn to the back of the web; composite wales have the stitches drawn to the face of one web and to the back of the other web,

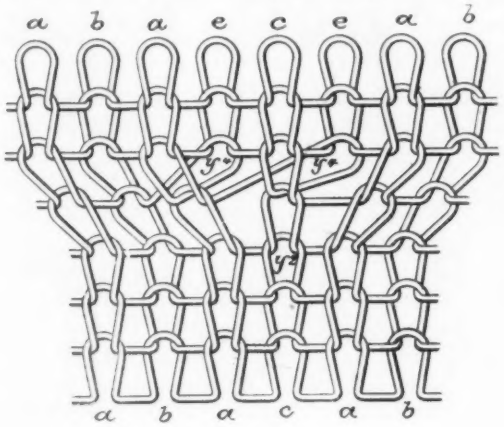


FIG. 1.

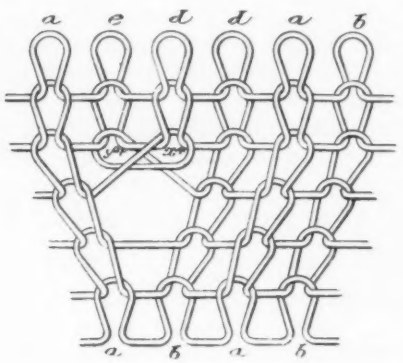


FIG. 2.

there being a reversal in the direction of the stitches in these wales at the point of change of the webs.

The fabric shown in Fig. 1 is one which is ribbed throughout, but in which there is a 33 1/3 per cent. doubling; that is to say, one

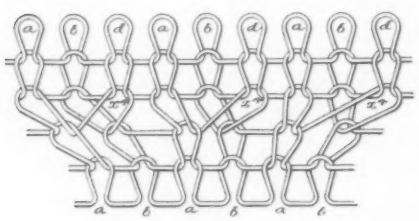


FIG. 3.

web has one-third more wales than the other. This fabric can be produced upon a machine of the character shown in Figs. 5 and 6, in which (x, x) represent the cylinder needles which are always in action; w, a

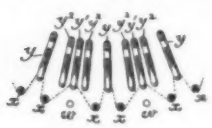


FIG. 5.

FIG. 6.

cylinder needle which is out of action in knitting the web having the lesser number of wales; y, dial needles which are always in action; and y', dial needles which are in action during the knitting of the web having

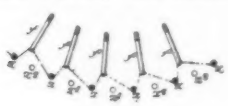


FIG. 9.

FIG. 10.

the lesser number of wales but which transfer their stitches to the cylinder needles, w, in changing from the web having the lesser number of wales to that having the greater number of wales.

Dial needles, y^2, are out of action during the knitting of the web having the lesser number of wales, but are put into action so as to produce the extra wales, e, in starting the web having the greater number of wales; these dial needles, y^2, being shogged on their introduction so as to carry the initial loops, y^4, of the introduced wales, e, across the adjoining standing wales, and thus prevent the formation of eyelet holes.

In the fabric shown in Fig. 2, there is a fifty (50) per cent. doubling, or one-half more wales in one portion of the web than

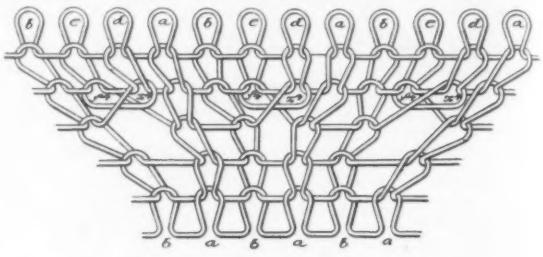


FIG. 4.

in the other. This fabric can be produced upon a machine of the character shown in Figs. 7 and 8 in which (x) and (y) represent, respectively, the cylinder and dial needles which are always in action; x^2 and y^2, respec-

FIG. 7.

FIG. 8.

tively cylinder and dial needles which are out of action in knitting the web having the lesser number of wales but which are brought into action so as to produce the additional wales, d and e, in changing from one web to

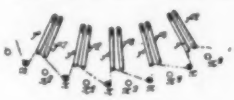


FIG. 11.

FIG. 12.

another, the dial needle being shogged so as to cross its stitch with that produced upon the introduced cylinder needle as shown at (x^4) and (y^4) in Fig. 2. In this fabric there is no composite wale produced by shifting a stitch from a dial needle to a cylinder needle, or vice versa.

Fig. 3 shows a fabric in which the change is from a web having a one-and-one rib to a web having a two-and-one rib, this change being effected by introducing extra cylinder wales, d, the arrangement of the needles in a

machine for producing this fabric being as shown in Figs. 9 and 10, each dial needle, y, being shogged across the cylinder needle, x^2, before putting the latter into action, and being then restored to its normal position after receiving the knitting yarn, so as to cross its stitch with the initial stitch, x^4, of the introduced wale, d, as before explained.

Fig. 4 shows a fabric in which the change is effected from a one-and-one rib to a two-and-two rib by introducing a cylinder needle, x^2, and dial needle, y^2, alongside of each

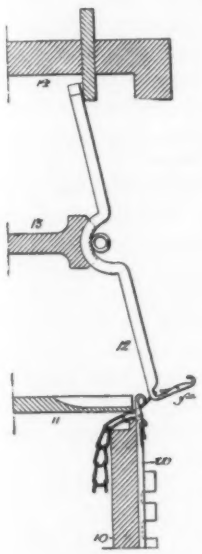


FIG. 13.

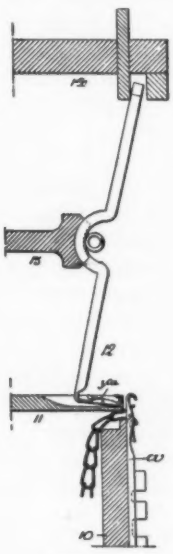


FIG. 14.

cylinder and dial needle employed in knitting the web having the lesser number of wales; such arrangement of needles being shown in Figs. 11 and 12, the initial stitches, x^4 and y^4, of the introduced wales being crossed as described in connection with the fabric shown in Fig. 2.

In Figs. 5, 7, 9, and 11, the dotted lines represent the succession of needles to which the knitting yarn is fed in knitting the webs having the lesser number of wales; in Figs. 6, 8, 10, and 12, the dotted lines represent the succession of needles to which the knitting yarn is fed in knitting the webs having the greater number of wales.

Figs. 13 and 14 show the dial needles, y, y′, carried by the lower ends of jacks, 12, mounted upon a fixed ring, 13, and having their upper ends acted upon by cams carried by a cam plate, 14; this plate having two sets of cams, one for acting upon the jacks so as to cause operation of the dial needles for ordinary knitting, and another set for causing an abnormal projection of the dial needles, as shown in Fig. 13, so as to carry them outwardly beyond the cylinder needles. This has the effect of drawing or stretching the web so as to dispose rib stitches over the cylinder as shown in Fig. 13, so that cylinder needles may be projected and caused to enter said stitches, as also shown in said figure.

The projection of the dial needles may be such as either to bring the stitches upon them, or precedently formed stitches, above the cylinder needles which are to engage the same. When the cylinder needles are projected so as to enter the stitches upon the dial needles, either of the needles may be moved laterally to the extent necessary to cause engagement of the cylinder needles with the dial stitches, and the dial needles can then be withdrawn so as to cast their stitches onto the cylinder needles.

When the cylinder needles engage stitches other than those upon the dial needles, the lateral movement referred to will not be necessary, as the slackening of the rib stitch on the withdrawal of the dial needle will cause it to engage with the cylinder needle which has previously entered the same. In changing stitches from cylinder needles to dial needles the cylinder needles will be provided with projections or butts as shown at (w′), Fig. 15, for stretching the cylinder stitches and permitting the dial needles to enter and engage the same.

The fabric can be knitted without arresting the operation of the machine and by the use of a continuous thread, the knitting and transfer cams being disposed at points so remote from each other that the knitting operation can go forward upon certain of the needles of the machine while stitches are being transferred from and to other needles of the machine at a point more or less remote from the knitting point.

This fabric construction is not limited to

a web composed of a single continuous yarn, since different yarns may be employed in either web when it is desired to produce a mixed or striped effect by the use of yarns of different colors supplied to the needles by different yarn feeds; even in that case there will be courses of stitches knitted with a continuous yarn common to both webs, although the term "continuous" does not necessarily imply unbroken continuity, as yarns of different color or character may be used in different portions of the web, so long as the meeting ends of the yarns overlap or provide for a continuous feed of yarn to needles of one and the same machine. It is manifest also that the transferred stitches and the introduced stitches may be in any desired courses of the fabric, that is to say, after the straight transfer of the stitches of some of the wales, any desired number of courses may be knit before further wales are started by introducing stitches and the reverse of this proposition is equally true.

MACHINES FOR EVERY STITCHING PROCESS IN KNIT GOODS MANUFACTURE.

The Singer Sewing Machine Co. are now offering to knit goods manufacturers, recently devised machines covering every stitching process in knit goods manufacture. Some of the principal ones are briefly described as follows:

Singer machine Number 88-1 is a rotary hook, lock-stitch sewing machine for attaching textile facings to knit goods at a speed of 3,500 stitches per minute, with neither noise nor vibration. The hook makes only two revolutions to one of the arm shaft, so that in spite of its great speed, the wear is slight and its life is long.

Number 107-W-1, for overseaming or zigzag stitching, can be operated at a speed of 2,500 stitches per minute. It is particularly well adapted for sewing knit goods, such as applying the patch to the seats of men's drawers, and similar operations where a lock-stitch is essential.

Number 81-3, for trimming and overedging knit goods at one operation, can be fitted for either two or three threads as desired. The goods will not stretch while being stitched and the thread is so laid as to make a flat and handsome elastic, chain-stitch seam.

Number 24-26 makes a single-thread, elastic chain-stitch, eight to thirty stitches to the inch, and can be run at a speed of 2,500 to 3,000 stitches per minute. It is especially adapted for fine seaming on knit goods.

Number 62-10, double-thread, elastic chain-stitch, has two needles, one looper, and is used for covering seams, for necking and ornamenting knit underwear.

Number 62-18, one needle, one looper, is especially fitted for stitching button-stays or binding on knit underwear.

Number 52-32 has four needles and four hooks for buttonhole facings; has strip folders, upper and under, to throw out, for folding the raw edges of facing and lining, and stitching same upon knit undershirts in one operation. Needles gauged 1/4 inch apart, unless otherwise specified.

Singer machine Number 79-1, for tacking drawers straps, is adjustable for making the bar tack from 1/2 to 7/8 of an inch long and 1/16 to 3/16 of an inch wide, the last two stitches fastening the thread and the automatic cutters trimming it close to the tack, both top and bottom.

Number 68-7, for attaching either 2 or 4 hole buttons, makes 11 cross and 3 tying stitches. The upper thread is drawn below and both ends cut off close to the material, so that no ends of thread are left on the right side of the button.

Number 68-19 makes 39 covering and 3 fastening or tying stitches for attaching a bar or buckle from 7/16 to 7/8 of an inch wide. It has a thread-rimming device which finishes the attaching process in one operation. It is especially designed for, and has marked success in knit underwear manufacture.

Singer machine Number 68-20 makes an ornamental "Budding" stitch of design similar to a fern leaf, consisting of 48 stitches, the thread being trimmed both top and bottom, making the design complete in each operation. It excels for finishing seams and ornamenting knit underwear.

Singer machine Number 71-42 is the latest and greatest work producing machine for making high-grade buttonholes. It makes a "whip" stitch and cuts both threads and buttonhole automatically after stitching.

Number 19-W-3, for eyelets, makes a plain radial stitch eyelet from 3/32 to 1/4 inch, inside diameter.

The foregoing machines are of recent design and each has been demonstrated by practical test in mill use as being eminently fitted for its purpose.

This line of sewing machines appears to cover the various stitching requirements of knit goods manufacturers and the reputation and guarantee of the Singer Company is back of all the machines in the Singer list.

KNITTING MILL NEWS.

New Mills.

*Iowa, Des Moines. The project in which R. B. Dennis was reported interested has developed into The Guaranty Hosiery Mill and it is expected that 56 knitting machines will be operated on hosiery early in November. The company has capital stock of $25,000. C. B. Fletcher is president, R. B. Dennis, treasurer and buyer, and F. C. Blue, secretary. The plant will be operated by steam power and includes a piece-dyeing department. Tens to 60s yarns will be bought. They are interested in all kinds of machinery used in a hosiery knitting plant.

Iowa, Des Moines. Owing to scarcity of help it is reported that the Des Moines Hosiery Mills will establish a branch at Boone, this state. If this branch is successful, H. M. Rollins, president of the company, thinks other branches will be started in this vicinity.

*Maine, Topsham. The Max-Mar-Lan Knitting Co. will be ready to start manufacturing very soon. Good progress is being made on the building, which includes a piece dyeing department and steam power plant. They will start with a few knitting machines and increase to twenty within a short time. The company will be incorporated with capital stock of $15,000. C. E. Lancaster will be president, H. Q. Mariner will be treasurer and C. E. Maxfield, superintendent and buyer. Men's worsted and mercerized cotton hosiery will be manufactured.

*Massachusetts, Spencer. Some of the knitting machines for Joseph Richard, previously reported to start a hosiery plant in the Beacon Block on Main St., have arrived. Mr. Richard expects to begin manufacturing in about a month.

*Minnesota, Fergus Falls. Iver J. Boyum, president of the Fergus Falls Woolen Mills, is the leading figure in the agitation for a knitting mill. If the project is carried through, the knitting mill will be closely allied to the Fergus Falls Woolen Mills and the same selling forces will handle the goods of both plants. The report that parties who recently started a shirt factory will be interested in the knitting mill is incorrect. At present the outlook for the organization of the proposed company is excellent.

New Jersey, Cliffside. Wm. Spaeth has started the Cliffside Knitting Mill and is manufacturing porous knit underwear. His mail address is Box 83.

New Jersey, Passaic. The Passaic Knitting Works, Bauer & Hambor, proprietors, have started making men's, boys' and ladies' jackets, at 11 Monroe St. Product will be sold direct. They purchase wool and worsted yarns.

New Jersey, Paterson. The Paterson Knitting Works, J. J. Schaerer, proprietor, are building a new mill, 125 by 50 ft., one story high, on Fifth Ave. and River St., to allow for the enlargement of the business. Mr. Schaerer states that he hopes to be in his new quarters by January 1, 1909. They manufacture high grade ladies' and men's wool and worsted sweaters.

New York, Brooklyn. The Jefferson Knit Co. is a new concern with capital stock of $5,000. It is operating a plant on 18 knitting machines and 12 sewing machines on men's, women's and children's wool and worsted sweater coats, at 127 Humboldt St., Brooklyn. Jacob Rubenstein is president, Henry Galinsky is treasurer and buyer. The plant is operated by steam power and the product is sold direct.

New York, Brooklyn. The Franklin Knitting Mills are being started at 14 Dunham St. by Baron & Shafer. The plant will be equipped with new machinery to be operated on sweater coats, etc.

New York, Jamestown. The Jamestown Hosiery Co. has been incorporated with capital stock of $50,000 and will equip a plant for the manufacture of hosiery giving employment to 30 hands. John L. Hoard is president, Harry S. King, Jr., treasurer, and F. R. Campbell, general manager and buyer. The company has not decided whether to build or buy a building, but in any event will equip a dye house and sell the product direct. The proposed equipment is 25 Mayo knitting machines.

New York, Stuyvesant Falls. J. L. Ashley, proprietor of the Crescent Knitting Mill, is interested in starting a new knitting plant in this vicinity.

*North Carolina, Cameron. A wooden structure, 32 by 60 ft., has been completed for the Regal Hosiery Co., reported incorporated with capital stock of $25,000. The initial equipment consists of 12 knitting machines, 3 ribbers and 1 sewing machine for manufacturing 84-needle half hose. Manufacturing will be begun about Nov. 15. R. W. Dunn, Raleigh, N. C., is president, Charles C. Jones is treasurer and buyer, and F. A. Jones, formerly of the Martin Hosiery Mills, Raleigh, is superintendent. The plant will be operated by steam power.

Enlargements and Improvements.

*Georgia, Augusta. The Gavin Mfg. Co., incorporated in October with capital stock of $10,000 for the purpose of taking over the business of J. J. Tyler Hosiery Mill, has organized with J. Inman Davis, president, and J. J. Tyler, vice-president and manager.

*Illinois, Rochelle. Construction work was begun on Nov 15 toward the erection of a 180 by 105 ft. addition to the plant of the Vassar Swiss Underwear Co. It is expected the building will be completed and machinery installed ready for manufacturing by March 15, 1909. Twenty-five new knitting machines will be set up for manufacturing men's union suits. This company has capital stock of $200,000. Geo. Maclean is president, T. C. Blayney, treasurer and Geo. E. Rutlidge, manager and buyer. The plant is operated by steam power.

*Indiana, Fort Wayne. The new 3-story mill erected for the Wayne Knitting Mill has been completed and machinery is being installed.

*Maine, Houlton. The equipment of the Houlton Woolen Mill has been increased by adding 5 new knitting machines instead of 10 machines as stated in earlier reports. The capital stock of this company is now $100,000 and the equipment 2 sets of cards, 12 knitting machines, 4 looms and 3 sewing machines. J. W. Maxwell is president and J. C. Dill is treasurer, superintendent and buyer. The plant is operated by steam and electric power.

Massachusetts, Ipswich. The Brown Stocking Co. intends to build an additional mill to be known as their knitting mill and will install 200 knitting machines. Building operations will not be begun until the spring of 1909. Daniel Safford is president and H. B. Brown is treasurer.

*New Jersey, Vineland. John Karl is operating 50 knitting machines on 188-needle seamless half hose. Charles A. Sholl is superintendent and Mr. Karl does the buying. The product is sold direct. This company has a large number of orders on hand and it is reported will enlarge the plant.

New York, Brooklyn. S. Abramson, proprietor of the S. A. Knitting Works, advises that he is to remove the plant from 232 McKibben St. to 162 Manhattan Ave. He is at present operating 7 knitting machines and giving employment to 20 hands on all kinds of sweaters and bathing suits. He buys wool and worsted yarns.

New York, Brooklyn. S. Fromm, now at 240-44 Broadway, where he is manufacturing sweaters and fancy knit goods on 40 knitters, is arranging to remove his plant to Hope St., on or about February 1 next, where he will not only have larger quarters, but will increase his equipment. He is very busy.

New York, Cohoes. The plant of the Wright Health Underwear Co., known as the Atlas Mills, will be equipped with automatic sprinklers. It is stated that a large storage building will also be erected.

New York, Herkimer. It is reported that the Royal Gem Mills Co. will erect an addition to be used for the purpose of dyeing and bleaching.

*New York, Norwich. As reported probable in April, the capital stock of the Norwich Knitting Co. has been increased from $25,000 to $50,000. Twenty sewing machines, a new napping machine and a steam press were added recently. It is understood that the increase is to provide funds for improvements which have been completed.

New York, Port Leyden. An addition will be erected and equipment installed which will increase the output of the Port Leyden Knitting Co. 50 per cent.

*New York, Sherburne. New equipment has not been added in the new dye house of the Canasawacta Knitting Co. Construction work has been completed.

New York, Troy, A 4-story concrete warehouse adioining the factory buildings is being built by the Wright Health Underwear Co. It is understood that the present storage rooms will be equipped with new machinery as soon as the new building can be used for storage.

New York, Utica. Construction work was started about a wetk ago on the 2-story brick addition, 50 by 60 ft., to the dyeing department of the Avalon Knit Wear Co. It is expected that construction work will be completed by the first of the year. The equipment to be added has not been decided upon at this time.

North Carolina, Enfield. The plant of the Enfield Knitting Mills will shortly be enlarged and additional machinery installed. At present 40 latch needle knitting machines are operated on ribbed hosiery. G. T. Andrews is buyer.

North Carolina, High Point. Contract has been placed by the Durham Hosiery Mills, Inc., for 100 additional knitting machines for their No. 3 mill at this place. Ladies' fine gauge hosiery is manufactured on 54 latch needle machines.

*North Carolina, Raleigh. Matthews Bros. will manufacture men's and ladies' seamless hosiery on 15 knitting machines and 2 sewing machines. Capital stock of the company is $5,000. J. A. Matthews is president and buyer, and J. L. Matthews, treasurer and superintendent. The plant will be operated by electric power and the product sold direct.

*Pennsylvania, Nazareth. The Kraemer Hosiery Co. report that they have increased their capital from $100,000 to $150,000, and have also increased their equipment by an addition of 12 new full-fashioned knitters which will permit them to turn out goods of a finer gauge. They have also recently put up a new addition to buildings, 70 by 54 feet, of brick, and are now putting in new boilers. The officers of the company are A. G. Schmidt, pres. and mgr., and C. W. Schmidt, treas., the plant being run on women's full-fashioned and ribbed cotton hosiery, which they dye and finish.

Pennsylvania, Philadelphia. J. S. Richmond's Oak Lane Knitting Mills, at 78 Wester St., Germantown, are very busy. The equipment of the plant has been increased to 25 knitters and 30 sewing machines, which are being operated on women's and children's cotton and worsted ribbed underwear, which he sells direct and through agents.

Pennsylvania, Philadelphia. The Actual Knitting Mills, 5126 Wakefield St., Germantown, report that their present quarters are too small and they are arranging for the removal of the plant to another location where it will be largely increased. They are manufacturers of fancy knit goods of wool and worsted yarns which they sell direct.

Pennsylvania, Philadelphia. The Hutton Manufacturing Co., 20 Strawberry St., manufacturers of worsted and cotton jersey bathing suits, operating 7 spring and 12 latch needle knitters and 40 sewing machines, report that they have also put in new machinery for the manufacture of high grade coat sweaters on which they are doing a good business. They are also looking for new quarters with an idea of enlarging their plant. They are using 15s to 50s worsted and 8s to 12s cotton yarns.

Pennsylvania, Philadelphia. The U. S. Knitting Mills, of which Haber & Auerbach, 48 South 3d St., are the proprietors, have recently installed several knitting machines in a plant located on Ashmead St., Germantown, in which they are manufacturing sweater coats and fancy knit goods, which they sell direct.

*Pennsylvania, Philadelphia. The firm of Cohen & Marku has dissolved by mutual consent, Mr. Samuel Marku retiring. Mr. Nathan Cohen will continue the business under the firm name of the Essex Knitting Mill, N. Cohen & Co., Proprietors, at 50 Johnson St., Newark. Mr. Cohen will collect all accounts and pay all obligations of the former firm. This company operated a plant of 10 latch needle knitting and two sewing machines on boys' caps, toques and stockings, at 1427 Catherine St. It was previously reported that they would remove to New Brunswick, N. J.

Pennsylvania, Philadelphia. H. C. Aberle & Co., Bodine and Cumberland Sts., are now manufacturing women's and misses' fashioned hosiery only, having dispensed with their seamless department. They have increased the number of the fashion machines to 32, all of which are running full.

Pennsylvania, Philadelphia. The Bell Hosiery Co., Mascher and York Sts., manufacturers of women's hosiery and men's half-hose. report that they are very busy operating 100 knitters and 15 loopers, selling their production through New York. They also state that they are now considering the advisability of almost doubling the plant.

Pennsylvania, Philadelphia. The Harrison Hosiery Co., which is now operating under the name of the Harrison Looping Co., have removed their plant from 6th and Huntingdon Sts., to 2632 N. Mascher St., where they have doubled their capacity and are operating 20 loopers by electricity, looping hosiery for the trade.

Pennsylvania, Philadelphia. The Reliable Hosiery Co., Front and Lehigh Ave., who have been manufacturing ladies' seamless lisle hosiery, have increased their line by an addition of high grade men's half hose. The plant now contains 58 knitters, 3 ribbers, 7 loopers and one sewing machine. The production is sold direct.

Pennsylvania, Philadelphia. The Diamond Knitting Mills, 138 North 8th St., who have been manufacturing caps, toques and shawls, under the superintendency of L. Effenberg, have re-equipped their plant with 40 latch needle knitters and are now turning out men's fine mercerized half-hose and knitted scarfs, which they are selling direct. They are buying mercerized and silk yarns. The plant is run by electricity.

Pennsylvania, Philadelphia. The Robert Meyer Company, 3839 to 3861 North 5th St., manufacturers of the improved split-sole hosiery of cotton. have increased their capital to $75,000 and also increased their equipment. They are now operating 175 knitters, 90 heads, round frames, 10 sewing machines and 31 loopers. Their production is now sold direct, instead of through New York as heretofore.

Pennsylvania, Philadelphia. Brownhill & Kramer, Memphis and E. Columbia Ave., have acquired possession of the building adjoining their property, 76 by 85 ft., which they are arranging to rebuild and connect with their present buildings, giving them an addition of 15,000 square feet of floor space and also allowing them to increase their machinery to 200 knitters, 40 heads of round frames, 94 ribbers, 65 loopers, 12 embroidering machines, and 6 sewing machines, which they are running on women's and men's fine seamless hosiery in cotton, lisle and mercerized yarns. They are getting out a line of samples of woolen hosiery which will also be manufactured by them in the future in addition to their regular lines. The production is sold through Taylor & Merikle, 350 Broadway, N. Y.

Pennsylvania, Philadelphia. The name of the Blood Mfg. Co., now at Jasper and Thayer Sts., has been changed to the True Shape Hosiery Co. Ernest Blood, the owner of the plant, reports that they are arranging for the removal of the mill to Bristol St., near Germantown Ave., where they will have more room in which to conduct their operations. They are manufacturing men's, women's and children's fine gauge cotton seamless hosiery on 60 latch needle knitters and selling direct.

Pennsylvania, Philadelphia. The Miehpaul Manufacturing Co., 2821 Jasper St., with a capital of $10,000, M. Laupheimer, pres. and mgr., and A. Nordlinger, treas., is very busy working nights turning out their line of sweater coats, knit jackets and fancy knit goods. They are now operating 20 knitters and 15 sewing machines by electricity, and propose, within a month or two, to purchase new machines to enable them to double the capacity of the plant. They sell direct.

Pennsylvania, Philadelphia. The Ideal Hosiery Mills, of which Jones & Page are the proprietors, have increased their equipment to 70 knitters, which they are operating on ladies', misses' and infants' hose, selling the production through E. O. Spindler, New York. They are quite busy.

Pennsylvania, Reading. On October 14, 1908, the business which was formerly run under the name of the S. & M. Hosiery Co., Chestnut and Mifflin Sts., was taken over by and will be operated in the future under the firm name of Barto &

Matz, who will continue to manufacture women's seamless cotton hosiery and seamless half hose. They also state that they have increased their machinery, which will enable them to get out a larger production. They sell both direct and through agents.

Pennsylvania, Reading. The Reading Underwear Co., who have been conducting a successful business at 109 Washington St., on ladies' and children's cotton underwear, have opened a branch mill known as No. 2 Mill, at Ephrata, Pa. The officers of the company are: C. E. Smith, president; W. W. Moyer, treasurer and secretary, and R. P. Brown, superintendent.

Mills Starting Up.

New York, Oswego. Manufacturing has been resumed in full in the plant of the Oswego Knitting Co., following a curtailment of several months. The company employs 125 hands. In January Charles W. Severson secured control of this company and increased the capital stock from $15,000 to $30,000, and added a quantity of machinery.

Pennsylvania, Philadelphia. The Defiance Knitting Mills, 10th and Diamond Sts., which have been shut down for a considerable length of time, are to be started up again. The company states that they are now receiving orders for spring goods and expect to have the plant in operation within a few days. They manufacture women's and children's ribbed underwear, operating 18 knitters and 28 sewing machines, selling the production direct.

Pennsylvania, Philadelphia. The National Hosiery Co., Sepviva and Hazzard Sts., which, through the lack of orders, was shut down August last, has again been started up on part time. They manufacture ladies' seamless full-fashioned and ribbed hosiery on 9 full-fashioned machines and 130 knitters, selling the production direct.

*Pennsylvania, Reading. Driesel & Ripka will resume manufacturing at once, having satisfied the claims of creditors. This concern manufactures ladies' swiss ribbed underwear of good grade on 5 latch needle knitting and 4 sewing machines, selling the product direct. Paul Driesel is buyer.

Mills Shutting Down.

New York, Gloversville. George H. Holmes, who manufactured warp and hosiery knit fabrics of all descriptions in a plant at 25 Clinton St., has gone out of the textile business. His present address is Box 186, Gloversville, N. Y.

Pennsylvania, Philadelphia. The Argood Hosiery Co., which commenced its operations in New Jersey several years ago and removed to 2632 Mascher St., this city, where they manufactured cotton and woolen seamless hosiery on 10 knitters, have now disposed of their equipment and are no longer in business.

Pennsylvania, Philadelphia. The Kent Knitting Mills, 2726 Mutter St., are liquidating and arranging their affairs preparatory to going out of business. The plant contains 100 knitters, 4 ribbers and 10 loopers, which were run on ladies' and men's cotton and lisle hosiery and half-hose which they sold direct.

Facts and Gossip.

*California, Los Angeles. The Imperial Knitting Co. reported incorporated last week with capital stock of $10,000 will not manufacture. This is a selling company which will carry a stock of the Imperial Knitting Co. (Milwaukee, Wis.) goods for distribution on the coast. This has been done before by Lem. A. Bronson, who is interested in the new corporation.

*Connecticut, Derby. No change will be made in the A. H. & C. B. Alling Co.'s plant as a result of the incorporation of a new company, as reported recently. The capital stock is $300,000 and C. B. Brewster has been elected president and treasurer. Exactly the same equipment and conditions will obtain as under the executors of Charles B. Alling.

*Illinois, Highland. The report of the incorporation of the Highland Embroidery Works with capital stock of $15,000, refers simply to the renewal of charter of the company now in business under that name.

*Illinois, Joliet. Wm. Buchanan & Co., reported to be starting a plant for the manufacture of felt slippers last June, are operating one machine. They buy wool and worsted yarns.

*Louisiana, Baton Rouge. The Alden Mills of New Orleans have received several offers to locate a branch plant in this vicinity. Whether a branch plant will be started has not been definitely decided and the whole project is very indefinite.

Massachusetts, Great Barrington. The Reliable Knitting Co. has received sufficient orders to keep the plant running on full time for the next five months. For some weeks the erection of an addition has been contemplated by the directors.

*New Jersey, Beverly. Turner Birkhead, formerly in the knitting business here and recently reported as about to start up again, has given up the idea for the present. Mr. Birkhead purchased machinery some time ago for this purpose and has it stored at his home, but cannot state at this time whether he will start up again or not.

New York, Johnstown. Reports that the Johnstown Knitting Co. was damaged by fire are incorrect. The fire occurred in the freight house and a few cases of goods owned by the Johnstown Co. were destroyed. The loss was very small. W. R. Howe has succeeded J. N. Potter as superintendent of this company's plant.

*New York, Little Falls. The Rockton Mills Co., recently reported incorporated with capital stock of $150,000, may take over the business of Whitman Bros., manufacturers of men's and boys' sweaters, mittens, gloves and similar goods, with a plant on Mohawk St.

*Oregon, Albany. Reports that a knitting mill will be started at this place by A. J. Caldwell of Stayton are premature. Mr. Caldwell has been in Albany and made a proposition to the Commercial Club in regard to starting a knitting mill. Negotiations are still pending. We are advised that R. Jacobs, who was reported as about to build a mill in Albany, is not interested in such a project.

Pennsylvania, Adamstown. A severe explosion

occurred in the Hope Hosiery Co. caused by the failure of a safety valve on one of the stocking presses to operate. The property loss is serious.

Pennsylvania, Bridgeport. Upon the death of Mr. Leo Kaufman, proprietor of the Kaufman Knitting Mills, the estate, which will carry on the business as heretofore, appointed Hugo Bock as manager of the plant, in which they are manufacturing seamless and ribbed hosiery and lumbermen's socks, operating 250 knitters; dyeing, bleaching and finishing the product; and selling direct.

Pennsylvania, Norristown. The Wildman Manufacturing Co., manufacturers of knitting machinery and cloth cutters, it is reported, began operating their plant on full time at a recent date. For the past year, it is said, they have been working only, 40 hours per week. The order affects 150 hands.

*Pennsylvania, Philadelphia. At a meeting of the stockholders of the Brown Knitting Co. and the Brown-Moore Hosiery Co., held on Nov. 25, it was decided to merge the interests of the companies.

Pennsylvania, Philadelphia. H. Miller is operating two knitters on sweater coats at 48 Pastorius St., Germantown, selling direct.

Pennsylvania, Philadelphia. William Bennett, American and Diamond Sts., reports that it is his intention to sell out his plant as a going concern with a view of retiring from the business. He manufactures ribbed and flat cotton hosiery on 120 knitters, selling direct.

Pennsylvania, Philadelphia. E. M. Miller & Co., who started a small knitting plant at 2834 E. Venango St., for the manufacture of women's cotton hosiery, operating 10 knitters, have disposed of their machinery and are no longer in business.

Pennsylvania, Temple. The Maiden Creek Hosiery Co. report business improving. They are at the present time installing a 50 h. p. boiler and towards spring they will put in a 30 h. p. engine. The officers of the company are Franklin Seidel, president; R. L. Seidel, treasurer, and C. L. Seidel, superintendent. They manufacture men's seamless and children's and infants' hosiery.

Rhode Island, Woonsocket. An addition 40 by 69 ft. will be erected by the Rathbun Knitting Co. for storage purposes only.

Tennessee, Bristol. A report states that the Jonesville Mfg. Co., of Jonesville, S. C., has decided to remove to this place, having leased space in the building of Ed. P. Jones. The building is a new one, having been erected by Mr. Jones especially for knitting late in 1907. The plant of the Jonesville Mfg. Co. was seriously damaged by fire in August of this year and has not been repaired.

Pennsylvania, Philadelphia. A former superintendent of the Welsbach Lighting Co. of Gloucester, N. J., in conjunction with other parties, it is reported, is negotiating with the Manufacturers' Land & Improvement Co., Arcade Bldg., for a site in Camden, N. J., on which to erect a building 200 by 200 ft., in which to install machinery for the manufacture of incandescent mantels. One of the locations offered is at 4th and Jefferson Ave.

Pennsylvania, Philadelphia. A. Rieffel is now operating his plant at 249 Collom St., Germantown, under the name of the Baker Knitting Co., with himself as president and P. F. Oettstetter as treasurer. The mill contains 50 knitters, 3 loopers and 6 sewing machines, which are run on worsted knit gloves.

Pennsylvania, Reading. Mr. Kalbach of the Gloss Knitting Mills stated that business with them was improving. They have increased their machinery lately and are manufacturing cotton and mercerized seamless half hose. The plant is located at 8th and Spring Sts.

Pennsylvania, Rothsville. Wages have been advanced 10 per cent. in the Rothsville Knitting Mills. It is reported that the company has orders on hand to keep the plant running full time for the balance of the year.

Rhode Island, Providence. The action brought against the Vesta Knitting Mills and Rudolph Berry, president and treasurer of the company, has been satisfactorily adjusted and complete settlement made.

Utah, Lehi. It is reported that the Standard Knitting Co. has been bought by Kirkham Bros., who have greatly improved the equipment. James M. Kirkham was formerly president of this corporation.

Personals.

Henry W. Folsom of Vernon St., Lawrence, Mass., who is overseer of knitting at the Lawrence Mfg. Company, attended the funeral of his father, A. H. Folsom, who died at Lakeport, N. H., recently.

G. W. Garrow has accepted a position as superintendent of the Statesville Knitting Mills, Statesville, N. C. He was formerly employed by the Mayo Machine & Needle Company, Franklin Falls, N. H.

George W. Coffee is acting as manager of the Fenimore Knitting Mills, Phoenix Mills, N. Y., since the resignation of W. B. Callahan. Mr. Coffee has had years of experience in the mill and well able to conduct the business in a capable manner.

Anthony L. Knowles has accepted a position as overseer of knitting at the Way Muffler Company, Philadelphia, Pa. He was formerly employed at the Hygienic Fleeced Underwear Company of the same city.

W. P. Brayton has been appointed superintendent of the Himes Underwear Company's Mills at Waterford, N. Y. He was formerly employed at the Mohawk Valley Mills, Mohawk, N. Y.

James Farley, superintendent of the Duofold Health Underwear Company, Frankfort, N. Y., has accepted a position as superintendent of the Tempest Knitting Company, succeeding Frank Parker, who has accepted a position with the New York Knitting Company, Oswego, N. Y.

P. T. McLendon, superintendent of the Berkeley Knitting Mills, Norfolk, Va., has severed his connection with that company to accept a similar position with the Shamokin Underwear Mills, Shamokin, Pa.

New Machinery and Processes.

This department is designed to present from month to month a brief mention of new machinery, devices and processes being brought out in this country and abroad, that are of interest to textile manufacturers. It is not a list of patents, but of improvements coming on the market. The idea being to present to our readers a systematic monthly record of new machinery etc., of interest to textile mill men.
We invite machine builders and others to send us such information for this department.

Loom Friction. The Oneida Community, Ltd., Oneida, N. Y., are placing on the market an improved friction for warp beams which is described in another part of this issue.

Seamless Fingering Machine. James Leckie & Son, 821 North 13th St., Philadelphia, Pa., are introducing a seamless fingering machine, to which reference is made in another part of this issue.

Textile Testing Machine. Finius Olsen & Co., 500 North 12th St., Philadelphia, Pa. A textile testing machine which indicates accurately both light and heavy loads and is thus adapted for both yarn and cloth.

Luster Finish. Karl Rumpf, Berlin, Germany. A process for producing a permanent silk-like luster on cotton goods. The cloth is subjected to the action of calender rolls heated to a temperature of 400° C.

A Steel Pulley. The Oneida Steel Pulley Co., Oneida, N. Y., have succeeded in producing a steel pulley of large diameter and wide face, reference to which will be found in this issue.

Loom Picking Motion. Gustav Hansing, Landeshut, Schlesien, Germany. A picking motion for looms weaving two widths of cloth and in which a picker stick is placed at each end of the loom in the centre between the two cuts.

Let-Off for Looms. Cook & Co., 18 Exchange St., Manchester, England, have recently brought out a patented warp let-off for looms. The most important advantage claimed and one that is stated has been proved by mill experience, is that a uniform width and length of the cloth is obtained, this being due to the regularity of the warp tension.

Selvage Motion. Hurst & Co., Hamer Machine Works, Rochdale, England. An improved selvage motion for hand looms. Hurst & Co. have long been known as makers of special machinery for winding warp on small spools for weaving. With the new selvage motion they utilize these spools, with, it is claimed, important advantages.

Take-Up Motion for Looms. William Hartley, 130 Burlington St., Ashton-under-Lyne, England, is the English agent for Clegg's patent take-up motion for looms. This device dispenses with change gears. Alterations down to any fraction of a pick can be obtained by unlocking the attachment and changing the position of an indicator on a dial.

A Loom Shedding Motion. George Hattersley & Sons, Ltd., Keighley, England. have recently brought out a loom in which the harness are actuated entirely from a mechanism under the loom and connected with the shaft that drives the lay.

Combing Machine. Martin Roth, Lille, France, An attachment for combing machines by which the noils as fast as made are automatically carried from the machine by a current of air.

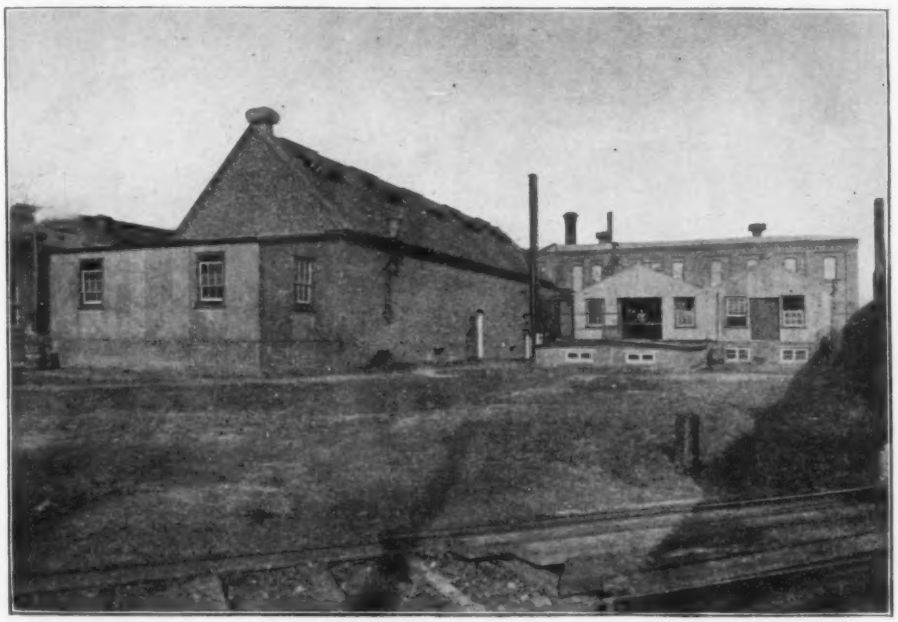
Shuttle Changing Device. Claudius Beluze, Roanne, Loire, France. An attachment for looms by which the shuttles are automatically changed without stopping the loom.

Wool Fan. Ferdinand Puchert, Ruppertsgruen, near Werdau, Germany. A method of transporting picked wool by which the stock is taken direct from the mouth of the picker and by means of a fan blown to any part of the mill.

THE NEW CONTINUOUS PROCESS OF WOOL DEGREASING.

For some time the wool trade and wool and worsted manufacturers have heard rumors of the successful operation of the new continuous process of wool degreasing which has been in use and under careful and systematic scrutiny by the Erben-Harding Company of Philadelphia.

The new method, and the machine, for degreasing wool by continuous process, for which the American Wool Degreasing Company, Arcade Bldg., Philadelphia, holds the patents, may now be seen at the mills of the Erben-Harding Company at Tacony, Pennsylvania, where our representative had the opportunity of inspecting it.



THE DEGREASING PLANT AT TACONY MILLS.

The plant is a one-story building about 50 feet by 125 feet, which contains the degreasing machine with necessary storage tanks and distilling apparatus.

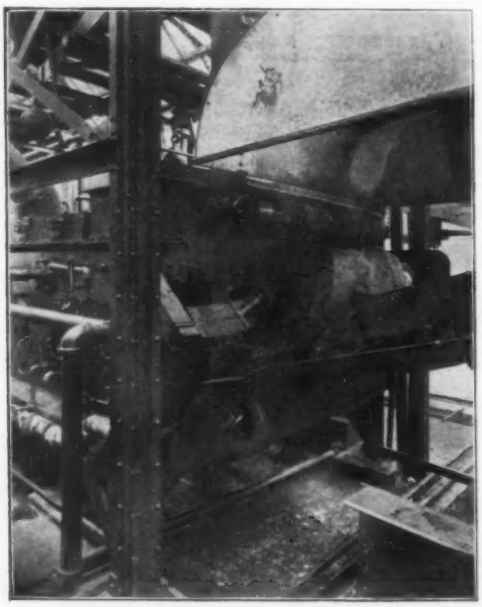
The entire machine is hermetically sealed, thus preventing the escape of vapors.

The machine, which is about 50 feet long, is made up of 19 compartments, each one being about 18 inches high. The space above these compartments is all open to allow for the passage of the wool. Each of these compartments has connected to it at the bottom, a centrifugal pump of a capacity of 100 gallons a minute, with a distributing pan placed above the wool; in each compartment there is a plate so arranged that any portion or all of the liquid that is pumped up and distributed over the wool can be returned either to its own compartment or to the compartment immediately preceding it.

The wool, carried between endless aprons of metal, enters the machine through a sieve, same extending almost to the bottom of the machine, thus submerging the wool considerably below the level of the solvent and forming a seal. The solvent being in a quiescent state does not vaporize to any extent, and should it do so, the wool entering the sleeve absorbs any vapors that may be formed. At the bottom of the machine the aprons conveying the wool pass around suitable rollers and are carried out of the solvent some inches above the partitions form-

ing the various compartments and then pass in a horizontal position through the entire length of the machine to the last compartment.

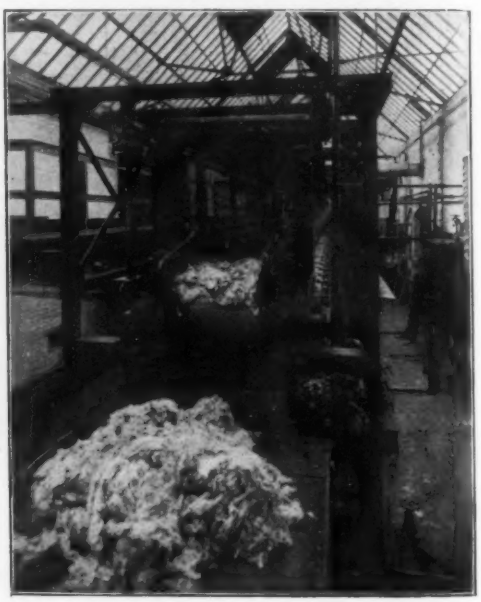
The aprons carrying the wool as they pass over the various compartments meet a heavy downpour of the solvent, and the first downpour of solvent is carried back to the preceding compartment by proper mechanism. The purpose of this is two-fold: the



THE FEED END OF THE MACHINE.

wool, according to the weight fed into the machine and its quality, will absorb 20 to 30 gallons per minute; this has to be replaced by solvent taken from the next succeeding compartment with an additional quantity to keep it in proper condition for degreasing the wool. This is not effected by an overflow from one compartment to the preceding one, but by a distributing plate that conveys a given amount of solvent that has passed through the wool back direct to the preceding compartment. Thus the solvent in the compartment from which it has been pumped is not contaminated or rendered greasy by solvent that has been carried forward by the wool. If the wool carries forward, say 20 gallons per minute, then 25 gallons per minute is carried back into the preceding compartment and this extra five gallons runs away by an overflow at the first compartment where the wool enters, for recovery by distillation.

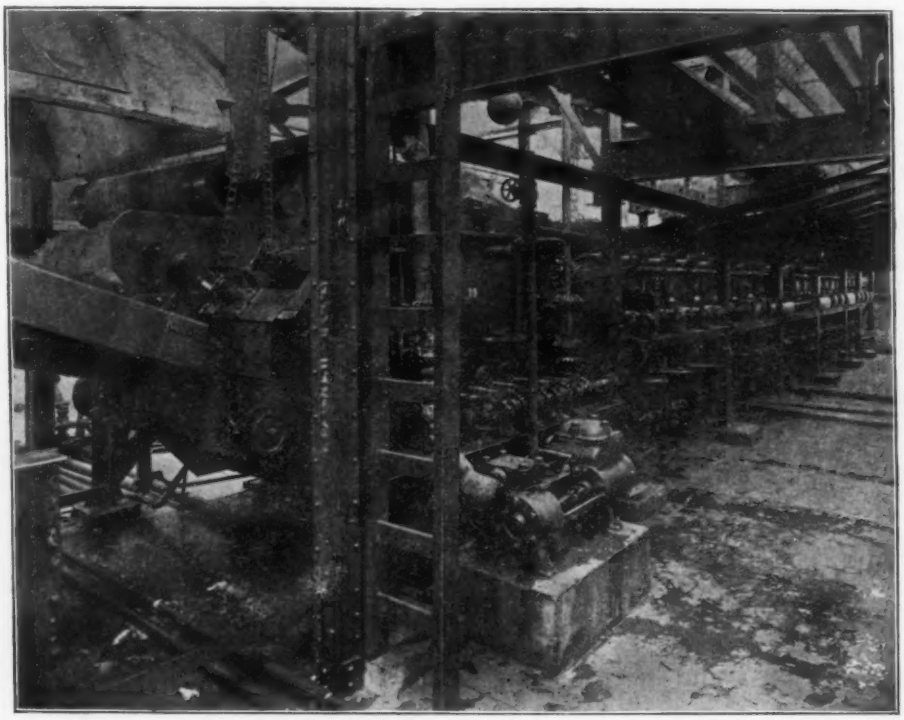
This operation is carried on in a similar manner through ten compartments. At the last compartment, however, the aprons carrying the wool pass between suitable squeeze rolls and are then subjected to a flow of clear solvent, thus ensuring the wool to contain nothing but clean solvent; this is again removed to a considerable extent by passing between squeeze rolls. This finishes the degreasing process; the next step is the removal of the potash salts and the solvent that the wool still contains, and this is effected in the following manner. After leav-



THE DELIVERY END OF THE MACHINE.

ing the last mentioned squeeze rollers, the wool still carried between the aprons is subjected to a downpour of water which further removes considerable solvent, and is again passed through squeeze rolls. It then passes over seven compartments arranged the same as the solvent compartments in regard to pumps, pans, etc. The action of the water in the first three or four compartments is sufficient to remove all the potash salts at a temperature ranging from 110° to 130° F.

At the same time a considerable portion of the solvent still remaining in the wool is floated off and carried back by the water and recovered without distillation. All the grease and the potash salts having been removed by the time the wool has passed compartments No. 12 or No. 13, the temperature of the water is gradually raised in the succeeding compartments till it reaches a point sufficient to distill off the remaining traces of the solvent, this action being very much accelerated by the downpour of the water.



THE CONTINUOUS PROCESS DEGREASING MACHINE.

At compartment No. 19, the aprons conveying the wool are submerged in a manner similar to their entrance into the machine in compartment No. 1, thus enabling a seal to be made and preventing any escape of vapors. The clean water is fed into No. 19 compartment and runs away at No. 11. The solvent in No. 11 and the water readily separate, the solvent being taken off by pump and returned to the machine and the water run into a tank to settle for 24 hours. This water apparently containing no solvent, if allowed to remain over night in a quiescent state, is found to contain considerable solvent that otherwise would be lost. If it is desired to recover the potash from the water it can be readily done by evaporation, as it has been found to be thoroughly practicable to have the water running from the machine sufficiently strong in potash salts to register 6° B.

On leaving the machine the aprons carrying the wool separate and permit the wool to drop on to another apron by means of which the wool is carried into a set of squeeze rolls similar to those of an ordinary scouring machine. The wool is then fed through a regular wool scouring machine to remove the soil that still remains.

The method of subsequent handling at the Erben-Harding Company's plant is to run the wool through a four bowl set of scourers, the first bowl containing clean water; the second, 10 pounds alkali to 2,000 gallons water; the third, 1 pound soap to 2,000 gal-

lons water; the fourth, clear water; the temperature of all bowls being about 90° F. The small amount of alkali and soap merely softens the water.

The greasy solvent that flows from the machine (and this depends entirely upon the amount fed in), is carried to settling tanks where it remains for 48 hours for the soil to settle. It is then pumped into an ordinary still, the solvent distilled off, condensed and run into storage tanks and the grease run into a tank and subsequently barreled.

As the solvent in all its use and circulation is carried in air-tight vessels and pipes and the wool is introduced and delivered through "seals," there is no fire risk of serious consequence, as was expressed by a well known insurance man in the remark that "a bonfire could actually be built in the plant without danger of explosion."

A plant with a capacity of 3,000 pounds per hour, doing readily 100,000 pounds per week, can be built at a cost of about $15,000 for the machine with all the necessary tanks for naphtha and the recovery of the degras and the stills; a smaller plant will cost something less but not proportionately.

It is in the subsequent operations that the great advantages of this system of wool cleansing will appear. The books of the Erben-Harding Company show that for a period of several years (while using their old "hydraulic" system of naphtha scouring), the cards have been cleaned and stripped on the average once in three and a half weeks; while the annual cost (for eight years), for clothing on their double worsted cards with licker-in attachment, has been $24.00 each. The "strippings" from the cards in working 2,058,000 pounds of greasy wool were 32/100 of 1 per cent., of which the actual fiber was 20 per cent., or 64/1000 of 1 per cent. the wool carded; "fly" was 22/100 of 1 per cent., of which the wool fiber was 40 per cent., or 88/1000 of 1 per cent., the wool carded; and the total wool in the "strippings" and "fly" was thus 38/250 or 1/7 of 1 per cent. Comparison with results from cards using wool scoured in the ordinary way will show how much more fiber from wool thus degreased goes forward into card balls. The lofty condition of the wool is wonderful and the production of a card may readily be increased 30 to 40 per cent. The percentage of noils is decreased by 2 1/2 to 4 per cent. and the production of the combs very considerably increased.

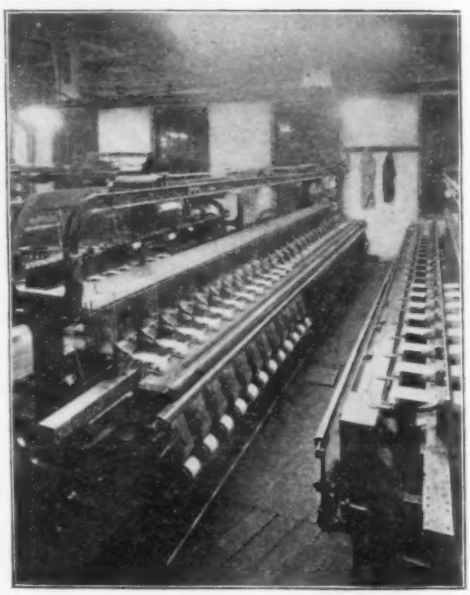
Every calculation made, covering a period of ten years, shows that, after the scouring, the saving amounts to over 1 cent per pound on the greasy wool treated.

The water from all these operations may run into any stream without danger of pollution, as it practically carries nothing but soil.

"BETTER THAN DAYLIGHT."

A. S. HUBBARD.

To claim that any source of light produces a better illumination than that obtained from our great solar center, and source of light, would seem an audacious and impossible assumption.



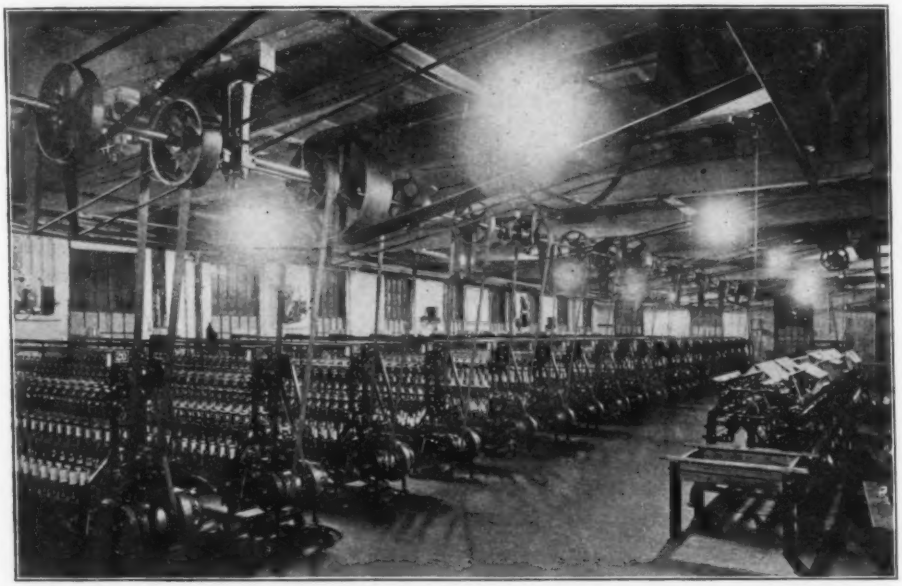
ILLUMINATION OF RIBBON LOOMS BY COOPER HEWITT LIGHT AT SPEIRS & CO., PASSAIC, N. J., .64 WATTS CURRENT PER C. P. 1 2 C. P. PER SQUARE FOOT.

When, however, we consider that sunlight or daylight is constantly varying from sunrise to sunset, and from day to day, we can more readily understand that there are some

things to be desired, in uniformity, quality and color, even from daylight illumination.

That this claim may be made for the Cooper Hewitt or Mercury Vapor light with sincerity, and in conformity with experience, will be seen from a review of some of the facts that have been demonstrated by use of the light.

The small current consumption and low intrinsic brilliancy of the Cooper Hewitt lamp, have been recognized from its introduction. A considerable period of use has been necessary, to prove other and more important qualities unsuspected at the introduction of this system of illumination to the textile industries.



GENERAL VIEW OF THROWING PLANT ILLUMINATION, PATTERSON, N. J., COOPER HEWITT LAMPS, .64 WATTS PER C P., .64 C. P. PER SQUARE FOOT.

It has long been noticed, for instance, that textile workers operating machinery illuminated by Cooper Hewitt light have found that the threads are more clearly seen than by daylight. This attribute of Mercury Vapor light has been expressed as a magnifying or clarifying quality, giving an effect equal to that of using a two and a half diameter lens to do the work by.

The result of this magnifying quality is illustrated by the following examples of use.

In one of the large silk mills where Cooper Hewitt lamps have long been in operation, a young woman in the warping department, selected because of her superior ability and intelligence, said that she preferred Cooper Hewitt light to daylight to work under.

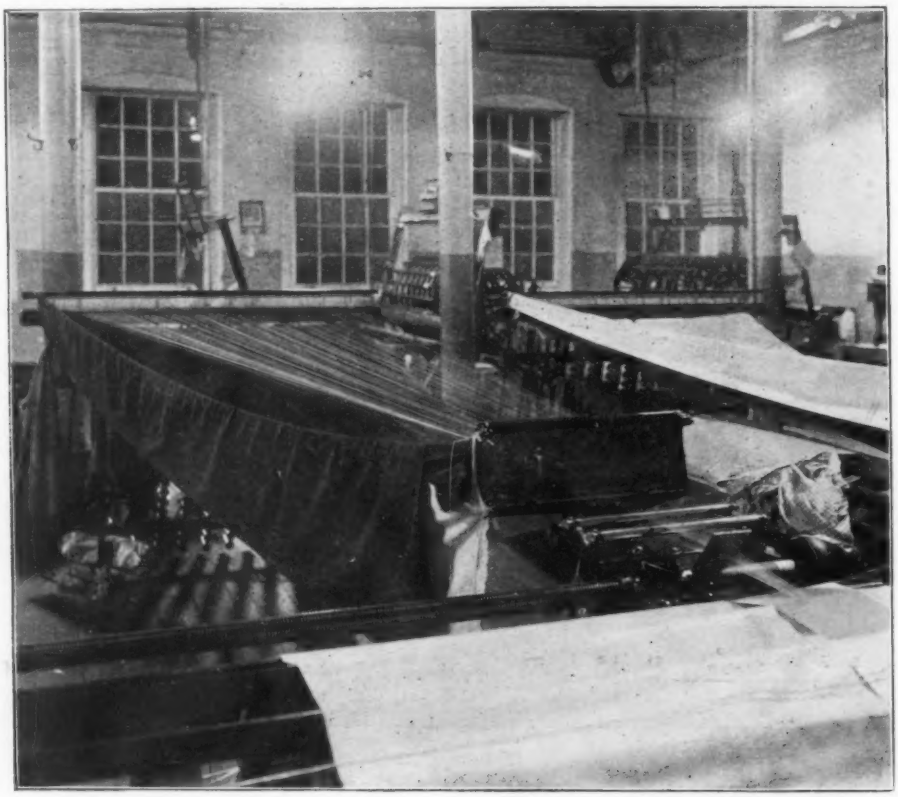
In a plush factory where the daylight rate of cloth inspection was forty yards per minute, the rate has been increased to one hundred yards per minute by the use of Cooper Hewitt light. Both of these experiences are, of course, due to the clarifying or magnifying quality of the light, and the resulting sharpness or clearness of line made possible by it.

This quality is equally useful in weaving and finishing, even where a great variety of colors are being handled. In fact I have believed from the first that no difficulty would be experienced in handling colored silks, either on broad or ribbon looms and that even quill winding would eventually be operated with success by means of Cooper Hewitt illumination.

These operations are being conducted now with no greater difficulty than by means of the older illuminants, and no more mistakes are being made than when these

cperations were conducted by means of daylight.

It may be seen from these examples that the chance for passing defective or imperfect work is greatly lessened in each operation, and should result, not only in an increased



DETAIL VIEW OF WARPING MACHINE ILLUMINATION, STEHLI & CO., LANCASTER, PA., CCOFER HEWITT LAMPS, .64 WATTS PER C. P., 1.57 C. P. PER SQUARE FOOT.

speed of inspection, but in a much greater proportion of first quality goods.

Another peculiar and useful application of Cooper Hewitt light has recently been made as is explained in the following letter:

CAPRON KNITTING CO.,

Manufacturers of Knit Underwear.

Utica, N. Y., Nov. 21, 1908.

Mr. S. H. Knapp, Dist. Sales Mgr., Cooper-Hewitt Electric Co., Albany, N. Y.

Dear Sir: We have your favor of the 9th. Have delayed answering same until our lights were placed in the office, so that a comparison could be made by daylight, incandescent and the Cooper-Hewitt.

Would say that white, black and gray retain their original color of the dye or bleach. Peeler color, which is the natural shade of cotton, is practically the same, but all other shades become very pronounced and entirely different from shade by ordinary daylight.

Egyptian becomes a greenish yellow. Up to the time we installed lights in our knitting room, we had great difficulty in running nights or after the lights were put on, distinguishing between the natural color of American cotton and Egyptian, unless the hands were experts, we occasionally had a mixup. This has not occurred in any single instance since installation of your lights.

It is our belief that when the employes get educated to the colors we will have no trouble throughout the entire mill; in fact, will be benefited, as the variation is so pronounced between shades that there is not much danger of their being mixed.

Yours respectfully,

Capron Knitting Co.

W. R. Schremp, Secy.

Thus is added another point to the already

goodly list of special uses of Cooper Hewitt light.

We have, then, a light of great efficiency, reasonably low maintenance cost, low intrinsic brilliancy and almost shadowless; a magnifying quality especially desirable and useful to the textile manufacturer in nearly every department and operation in the mill; and a ready and simple test for separating Egyptian and American cotton.

Therefore it would seem that there are strong grounds for the claim that as a textile mill illuminant, the Cooper Hewitt light is "better than daylight."

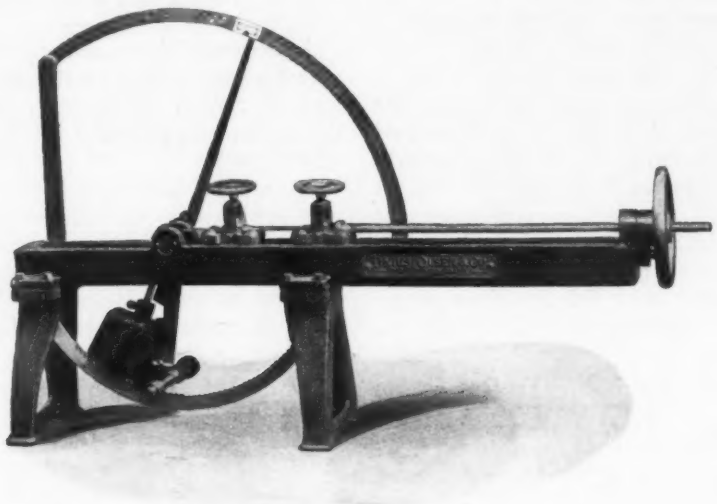
A TESTING MACHINE FOR TEXTILE MATERIALS.

Testing, as referred to the textile industry, has been greatly increasing during the past few years and it is only a question of time before all textile materials will be subjected to the same rigid testing now required of other material.

Testing is of value not only for proving the strength and thus satisfying a purchaser he is getting the material he requires, but is of value to the manufacturer who desires to turn out a good product, to determine the effect of a process, or of a machine in the manufacture of the material.

An improved machine for testing strength of textile materials, shown in the accompanying illustration, is the invention of T. Y. Olsen and is manufactured by Tinius Olsen, 500 N. 12th St., Philadelphia, Pa. Mr. Olsen's object has been to design the machine suited for both light and heavy strains, so as to adapt it for the testing of yarn with a low tensile strength and also of cloth under a much higher load. Heretofore separate machines had to be used, because the one constructed for testing under the heavy loads was not sufficiently sensitive to indicate closely the breaking strength of tender materials.

The breaking strength is indicated on the Olsen machine by a pointer and large dial as shown. The scale is marked from 2 ounces up to 12 pounds and then indicates the strain by pounds up to the maximum of the machine, which is 200 pounds. The samples to be tested are gripped between the two heads as shown, and the load is applied by turning the hand wheel at the end of the machine.



A TESTING MACHINE FOR TEXTILES.

The load is transmitted by a flexible band to the weighing pendulum and the suspended weight, which holds the pendulum under no load at an angle of 45°. A load of about 12 pounds lowers the pendulum to contact with suspended weight which, thus augmented, will weigh any load up to 200 pounds. The pendulum is held at point of rupture by a pawl operating in the rack shown and is returned to position of test by turning the handle at the lower end of the pendulum. The maximum breaking load is read from the scale as indicated by a pointer which is returned to zero on completion of the test. This machine is accurate, sensitive and quickly operated. Various types and sizes of grips and holders may be used adapting the machine to any tensile test within its capacity.

Further information regarding this machine can be obtained upon application to the manufacturers.

COMMUNITY FRICTION CHAIN FOR LOOMS.

One of the essential requirements for the weaving of even cloth is uniform let-off of the warp. This uniformity depends entirely upon the operation of the friction adjustment and every loom fixer and weaver knows of the great difficulty in getting good results with ordinary rope or strap friction.

With the Community Friction chain, made by the Oneida Community, Ltd., Oneida, N. Y., this objection is overcome. The chain does not stretch, it is not effected by dampness or dryness and insures positively even and uniform warp let-off, and results in more perfect cloth. It is adapted to heavy or light weaving. This friction chain will outwear cord, band or rope many times over. It saves labor and is easily adjusted, but of course its great advantage is the uniformity of let-off. It can be used in connection with any let-off device and has been tested under most exacting conditions in many mills for a considerable time and wherever tried has given satisfaction. Further information can be obtained by writing to the manufacturers.

The amount of cotton thread employed in the manufacture of ribbons in St. Etienne, France, was 1,212,530 pounds, valued at $772,000.

During the summer months the largest item of export from Batoum, both in bulk and value, is that of cocoons, and practically all of it goes to Marseille, France. Last year there were 2,878,000 pounds of cocoons shipped at a value of $2,033,561, or almost a dollar a pound.

St. Etienne, France, produced for the year 1907 ribbons of all kinds to the value of $21,470,086, which is an increase of $2,318,605 over the returns for 1906, due to the large number of orders received and increase in the price of the manufactured article. The exports are valued at $8,197,879, an increase of $1,943,052 over the previous year.

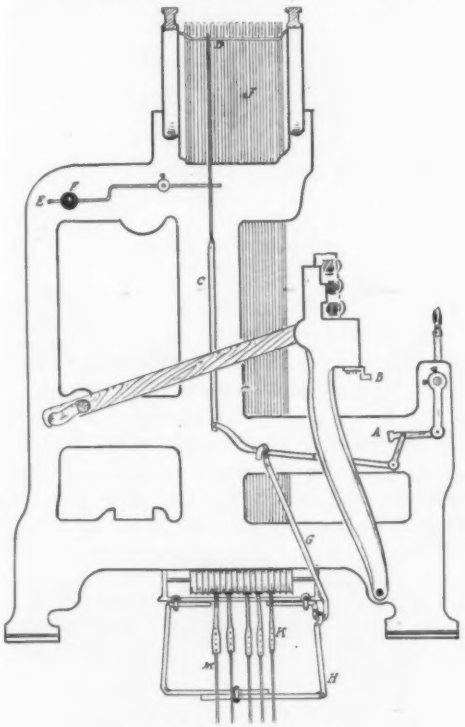
LOOM HARNESS STOP MOTION AND "SMASH PROTECTOR."

A very useful attachment to a loom has recently been placed on the market by Bamford & Smith, Providence, R. I. It is a device for stopping the loom automatically when a jack harness wire or strap breaks. It will commend itself at once to manufacturers who are striving to increase the production and reduce imperfections in the goods. Another claim made for it is a saving in loom supplies, as there is less breakage of castings. If a vibrator becomes broken or separated from the jack, or a harness wire or strap breaks, the loom stops immediately. Frequently a bow harness beneath the loom becomes unhooked or the hook that holds it to the harness becomes broken causing the wire to become tangled in the straps and often breaking several straps before the weaver discovers the difficulty. With this attachment the loom is brought to a standstill as soon as the wire becomes loosened, preventing all subsequent damage to the loom or warp.

No matter how a wire or strap becomes disconnected the stop motion operates instantly. At present if a hook at the top or

bottom of the harness should break, or the strap or wire become disconnected, the loom continues to run and frequently the weaver has to pick out several inches of cloth in which the warp threads have skipped on the back or face. All this is avoided by the use of the new stop motion.

Another advantage is that the loom can



LOOM SMASH PROTECTOR.

be stopped by the weaver either at the back or front of the loom. Frequently when behind the loom the weaver discovers something wrong with the work and desires to bring the machine to a stop. With this device they can do it without going around the loom.

The motion operates as follows: When a harness jack drops out of place it strikes the wire, D, pushing down the rod, C, which raises A up in time to strike B as the lathe comes forward, knocking off the lever. E is a stopping lever which enables the operator to stop the loom from the rear. F is a weight which keeps the apparatus in position. When a harness strap, K, breaks, it lets the wire, M, down on the frame, H, which pulls down an arm, G, and raises A, which strikes B, and stops the loom.

Further information regarding this stop motion can be obtained upon application to the manufacturers.

A COUNTING MACHINE.

Counting machines have long been in use in European textile mills, particularly in the mills on the Continent, where it is now the general practice to reckon the production of looms by the number of picks as indicated by counters attached to the machine. The advantages of this method are rapidly commending themselves to American manufac-

FIG. 1.

turers and as a result many of our best mills are attaching counters to their looms and to other machines in order to obtain a record of the production by a method that is for all practical purposes entirely free from errors.

The Durbrow & Hearne Mfg. Co., 12 Wooster St., New York, manufacture the counter shown in the accompanying illustration. It has been in practical use for more than twenty years and has demonstrated its value beyond all question. The construction is simple and durable and as a result the counter will outlast the machine to which it is attached.

Fig. 1 shows the counter with the lid raised exposing the interior mechanism. Fig. 2 shows the counter in position for use with the lid closed and only the counting figures on the dial exposed. The counter in-

dicates numbers up to one hundred thousand and is easily set back to zero when desired.

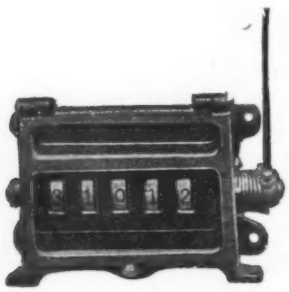
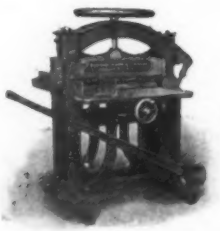


FIG. 2.

Further information regarding this very useful device can be obtained upon application to the manufacturers.

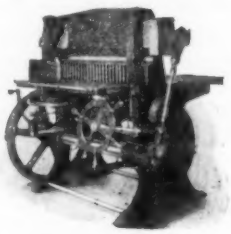
THE OSWEGO AND BROWN & CARVER CLOTH CUTTERS.

The Oswego Machine Works, Oswego, N. Y., builds cutting machines exclusively. They have been in this line of work for thirty-seven years, and include among their products a number of styles of cutters for pinking cloth samples. We illustrate several styles.



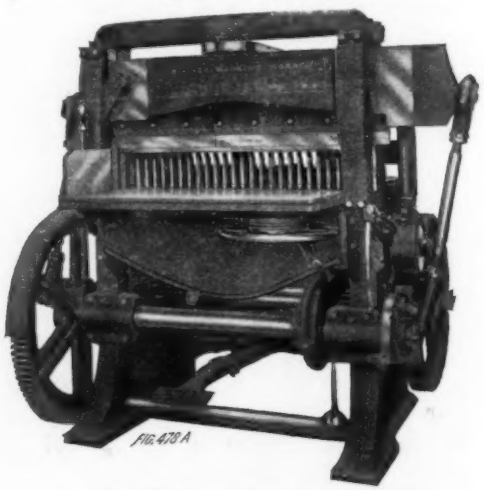
OSWEGO LEVER CUTTER, 23 IN.—32 IN.

One of these machines, the Brown & Carver automatic cutter, is specially adapted for mills in which a large number of samples are cut and where it is necessary to do the work as quickly as possible. This machine, which is made in 34, 38, 44 and 50 inch sizes (larger to order), has vertical stroke changeable to shear stroke, is driven by power and runs at a speed of thirty cuts per minute. The clamp descends gently on the pile, and the automatic pressure is applied to hold the pile. A pile of any thickness accommodated by the machine is cut, and then the knife and clamp return automatically to the top. A quick cable movement for drawing the pile forward is connected with an overhead indicator in line with the operator's eye, showing the exact position of the back gauge and measuring



BROWN & CARVER SEMI-AUTOMATIC CUTTER, 34 IN.—50 IN.

the cut. The clamp may be brought down to the work by a treadle to indicate where the knife will strike when the power is applied. Special table extensions may be arranged for accommodating the cloth to be cut. Facilities are provided to aid the operator in handling the work, so the volume of work depends solely on the ability of the operator to keep pace with the machine.



BROWN & CARVER AUTOMATIC CUTTER, 34 IN.—50 IN.

Another type of cutter is the Brown & Carver semi-automatic machine, which is driven by power and built in 34, 38, 44 and 50 inch sizes, with vertical stroke change-

able to shear stroke. The clamp may be quickly brought to the work by a treadle, and will lock automatically on the work. A partial turn of the hand-clamp wheel gives full clamping pressure, and a partial turn in reverse will release the clamp so it will rise automatically to the top. These machines have a quick cable movement for back gauge.

In pinking samples on the Oswego and Brown & Carver cutters, there is no waste of material, as the serrated edge is obtained both front and back of the knife at one stroke where the pile is cut.

The mechanism of all these cutters is simple, and there are few wearing parts.

Another type is the hand power machine known as the Oswego lever cutter. It has vertical stroke and is arranged for easy handling of the work.

These cutters are adapted for any work of this character,—not only sample-cutting, but for straight-line cutting and trimming.

A NEW DEPARTURE IN PULLEYS.

The Oneida Steel Pulley Co., Oneida, N. Y., have brought out a new steel pulley in large sizes. For a number of years steel pulleys have been very popular, but until very recently they have not been used in sizes above 48 inches in diameter. The Oneida Company, however, have succeeded in making a steel pulley in sizes up to 112 inches in diameter and 40 inch face. Nearly two years' experience under trying conditions has demonstrated their merit.

These pulleys effect a large saving to manufacturers, particularly in regard to weight. While they are exceedingly strong and will not fly to pieces, as cast iron pulleys sometimes do, they are light in weight—between one-third to one-half the weight of cast iron. For that reason they do not load down the shafting as heavy cast iron pulleys do. They are easily installed and cost less for transportation. They are all made in the form of split pulleys and are held to the shaft largely by compression. A key can be used if desired. The important advantage claimed for these pulleys is that the adhesion of the belt to steel is from 10 to 20 per cent. greater than to cast iron. This, it is stated, is owing to the fact that in all cast iron there is a certain lubricant which has a tendency to lessen the adhesion of the belt, whereas in steel there is nothing of that kind. In all the tests which have been made, steel pulleys have shown from 10 to 20 per cent. more adhesion. This, of course, is an advantage, as the belt can be operated with less tension to secure the same horse power, relieving the strain on the shaft to that extent, as well as saving the belt. Some of the largest manufacturers have installed these pulleys with very satisfactory results. It has been claimed by some millwrights that heavy pulleys and fly wheels were an advantage. That may be so in some cases, where there is an intermittent power, and a balance wheel is required to carry the load over a certain point, but for regular work every ton weight requires a horse power to drive it. The manufacturers of the Oneida pulley are confident that these pulleys will become very popular in time, as manufacturers understand how much more economical they are than cast iron pulleys.

MILL ROOFS.

The roof of a textile mill is generally of great area and protects valuable machinery. The first feature makes considerations of cost important, and the second emphasizes the need of perfect protection. Textile mill roofs, moreover, must answer one peculiar requisite, they must be immune not only from the ordinary smoke and fumes of a factory, but must also be capable of resisting the action of the humidity of the interior which is a necessary characteristic of textile manufacturing. Many textile manufacturers have adopted the so-called gravel or slag roof on account of its low cost and adaptability to large flat areas, coupled with the excellent protection which roofs of this kind give when properly laid.

Tar and gravel roofs call for no maintenance expense because they are neither painted nor coated. Accordingly when the roof is once laid in place, the mill owner has no further responsibility, and is able to leave it untouched for years. The one difficulty

connected with this type of roofing in the past has been the necessity of relying upon the individual methods of local contractors who differed widely in their ideas of how to apply such a roof to the best advantage. Many manufacturers came to put their trust in a single contractor whose local reputation for laying long-lived gravel roofs gave some sort of assurance that the new roof would be like his previous successful jobs. Competitive bidding under such conditions became out of the question, since no two contractors were bidding on the same thing.

The Barrett Manufacturing Company, who manufacture most of the material used for gravel roofs, have recently developed a standard for roofs, known as the Barrett specification, which aims to define and make universal a correct method for laying roofs of coal tar pitch, tarred felt and gravel or slag. The specification is drawn up with great precision, and can be easily followed by any intelligent contractor. The principles are over sixty years old. It involves nothing new or experimental. It provides:

1—For the proper amount and weight of felt.

2—For the proper amount and distribution of the coal tar pitch.

UNITED STATES CUSTOM HOUSE, NEW YORK CITY, COVERED WITH BARRETT SPECIFICATION ROOF.

3—It minimizes the possibility of poor workmanship.

4—It insures a roof that is unapproached for durability and low cost.

It has been found that most architects and engineers were glad to accept this specification as the proper standard, and the simple phrase, "the roof shall be laid according to the Barrett specification," is now frequently incorporated into the architect's original specifications.

The character of the materials is assured in the specification by the specific mention by brand of the pitch and felt. Accordingly, a modern user of a gravel or slag roofing

can secure competitive estimates for his work with a certainty that the bidding contractors cannot alter the character of the roof they propose to lay. Likewise, the owner is assured of definite results.

Roofs of this character have been known to endure in many cases for more than 30 years without any attention or repairs. Twenty years of service without any attention or expense is very common, and the cost per year of service is far below that of any other roofing known, amounting as a rule to about one-fourth of a cent per square foot per year. As regards fire protection, gravel and slag roofs have an excellent record. They will not ignite from embers or sparks, and on account of their great thickness they insulate the roof boards from the heat of a neighboring conflagration. Their extensive use on big manufacturing plants with general satisfaction despite the wide variation in specifications in the past, indicates that the future record of these roofs when they are scientifically laid according to the most approved methods will be more than satisfactory.

Copy of the Barrett specification may be had by addressing the nearest office of the company at New York, Chicago, Philadelphia, Boston, Pittsburg, Cincinnati, Minneapolis, New Orleans, Kansas City, Cleveland, St. Louis or London, Eng.

THE NEW KEUFFEL & ESSER BUILDING, COVERED WITH BARRETT SPECIFICATION ROOF.

A DRY SYSTEM CARBONIZING MACHINE.

The American agency for the dry system carbonizing machine shown at Fig. 1 has recently been obtained by Schuchardt & Schuette, 136 Liberty St., New York. This machine has been developed in Germany where it has been in successful use for many years. The material to be carbonized is placed in a revolving drum, A. This drum is mounted on a hollow shaft, at one end of which is the revolving retort, B. The hydrochloric acid is automatically fed into this retort, which is heated by a fire in the furnace, d. Fig. 2 is an enlarged view of the device for feeding the acid to the retort. The acid fumes are carried from the retort to the chamber, A, carbonizing the vegetable material in the stock. The flames from the furnace lap around the rotating retort so that the latter becomes thoroughly and uniformly heated and cannot be attacked by the acid. Attached to the outer end of the pipe lead-

ing to the retort is an automatically closing scoop, g. At each revolution of the pipe this scoop dips into the hydrochloric acid in the tank, h. As the scoop ascends above the level of the shaft, the acid flows through the pipe, f, into the retort where it is evaporated by the heat. As the scoop closes automatically it is impossible for the acid fumes to escape through it. The gases flow directly from the retort through the hollow shaft, i, into the carbonizing drum. Before the acid is introduced into the machine, however, it is necessary to remove all the natural moisture from the material to be carbonized. This is done as follows:

After the coke in the furnace, d, is burning clear and bright, the damper leading to the chimney flue is closed and the ventilating fan, V, started. This sucks the air through the ash pit, furnace and pipe, o, then through the system pipes, p, located behind and above the carbonizing drum; then through the pipes, q and lq, and hollow shaft, r, to the material within the drum. The hot air and vapor then circulate from the drum into space between the drum and brick-work and from there to the underground conduit, s, to the chimney. In this way the air can be heated to 260 F. and above or lowered to the natural temperature. By reason of the large quantity of air, the high temperature and the continual agitation of the material in the drum, the drying process goes on with great rapidity. At the conclusion of the drying process the slide in the pipe, x, is opened and that in the pipe, q, closed. The ventilating fan, v, then drives the air through the boxes, which are placed below for heating the drum during the carbonizing process. The air then passes out through the chimney.

The walls of the system of pipes, p, are warmed by the superheated air passing through the latter, and radiate so much heat into the space between the drum and brick-work that the air can be heated to any desired temperature, and rendered suitable for the subsequent entry of acid gases and the carbonizing process, without fresh air being introduced, since the system of pipes constitutes internally a wholly closed space.

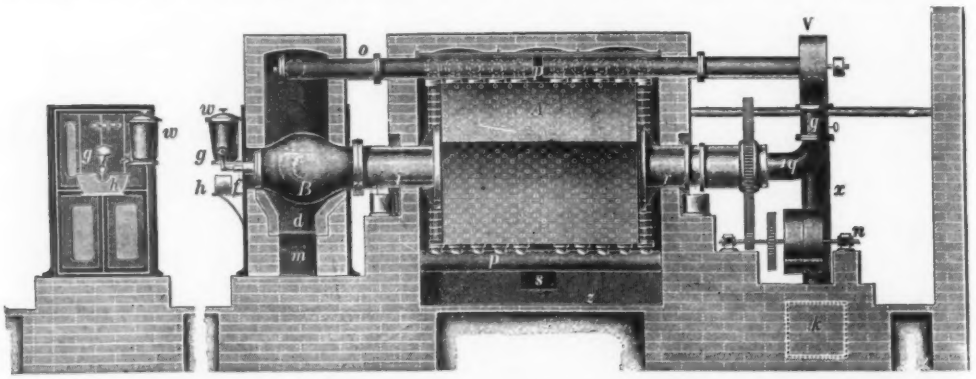


FIG. 2. FIG. 1. A DRY SYSTEM CARBONIZING MACHINE.

As there is no furnace under the carbonizing drum there is no smoke rising from the machine. The process goes on without inconvenience to the attendants and there is no danger of an explosion. The flow of acid into the retort is automatically regulated and even the smell of cold acid is not perceptible.

The carbonizing drum is provided with hooks on the inside by which the material being carbonized is caused alternately to rise and fall, preventing any balling of the stock. During the process the dust in the stock falls through the perforations in the drum to the floor, z. Thus the stock being carbonized remains entirely free from dust and loose dirt during the process, enabling the gases to operate much more effectively.

If it is desired to examine the material during the dry carbonizing process, the pipe, 1Q, is removed and samples taken from the drum through the hollow shaft, r, by means

of a hook. The removal of a pipe occupies but a few seconds.

When the carbonizing process is completed the slide valve in the conduit is opened, all fumes passing into the chimney and the whole apparatus is cooled down and ventilated. The machine is then brought to a standstill, the door in the brickwork opened and the drum turned by a lever until the opening in the drum comes opposite that in the brickwork. In this position the workmen can readily empty and recharge the machine without being inconvenienced by smoke, dust or gas.

No highly skilled labor is required for operating the machine, it being possible to train an intelligent workman in a day so that he can run the carbonizer without difficulty.

The machine has been gradually brought to its present state of efficiency during a period of over 40 years, all improvements indicated by practical experience having been adopted from time to time. In its present form it carbonizes rags and all loose stock with great economy of labor, fuel and acid. The builders state that the total cost of carbonizing, covering wages at the German rate, coke, hydrochloric acid, power, repairs and depreciation vary from 6 to 9 cents per 100 pounds.

The machine is also adapted for carbonizing material by the wet process and it is claimed that the results equal those obtained with any other drying machine. The machine occupies very little space and all parts are readily accessible. Further information regarding this carbonizing machine can be obtained upon application to Schuchardt & Schuette.

The wool sorters in Italy are paid $4.60 per week, in France $6.40, in England $7.30 and in the United States $12.50. The weavers receive $3.00 in Italy, $4.60 in France, $4.00 in England and $9.00 in the United States. The cost of living is cheapest to the operative in Italy, higher in England, still higher in France, and highest in the United States. The productive efficiency of the operative is lowest in Italy, higher in France, still higher in England, and highest in the United States.

THE NEW POWER PLANT OF THE WARRENTON WOOLEN CO.

The new power plant of the Warrenton Woolen Co., Torrington, Conn., although not large, contains a very complete equipment and presents many features of particular interest. It was organized under the supervision of Mr. Chas. T. Main, mill engineer and architect of Boston. It was decided to operate with electric power and to isolate the power station from the main body of the mill. This made it possible to locate the power plant at the lower end of the property, convenient to a coal pocket and a spur track, which can be used for the delivery of coal to the power plant or raw material to the mill.

The building is of brick 73 feet long by 52 feet wide, divided by brick walls into four parts—boiler, generator, pump and supply rooms. These are respectively 40 by 50 feet, 40 by 30 feet, 15 by 19 feet, and 5 by 9 feet. Underneath the engine room is space for the auxiliaries in a basement nine feet high and four feet below ground level. The boiler room is of brick, situated at the ground level. The roof is of concrete, inclined 1/2 inch to the foot and supported by steel trusses of about 6 feet in depth at the middle. There is a clear height of 20 feet under roof trusses in the engine room. The engine room floor is of reinforced concrete.

The chimney, situated at the northwest corner of the boiler room, has its foundations built as a part of the wall. It is of brick, 125 feet high, lined with brick, with the usual annular air space. Connection is made from the boilers by a steel flue with damper regulator. Sufficient space is provided for the installation of an economizer. An industrial railway connects the coal pocket and the boiler house. Scales are provided for the weighing of the coal used.

The boiler equipment consists of three 72 inch horizontal return tubular boilers made by the Bigelow Co., New Haven, Conn.

Power is furnished by a Cooper-Corliss, simple, horizontal, non-condensing engine. 19 by 36 inch cylinder, direct connected to a Crocker-Wheeler alternating current generator of 250 k. v. a. capacity,

designed to run at 120 r. p. m. Field excitation is furnished by a 20 k. w. machine, belt driven from the engine shaft. There is sufficient room for the installation of a small generator set of about 30 k. w.

All piping for engine and auxiliaries is confined to the engine room basement. Feed water is taken through a 4 inch suction pipe and delivered to the feed water heater. All returns from the heating coils and drip pockets are trapped and led to a receiver pump which discharges into the boiler through a separate feed line from the primary feed pipe.

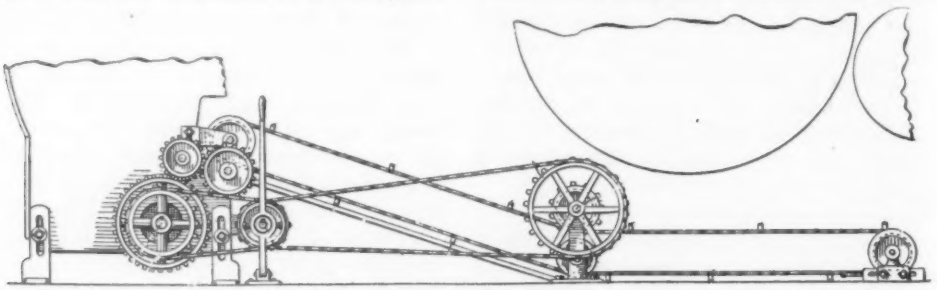
Live steam is used, in addition to that for the engine, by the feed and receiver pumps, and in connection with the low presure system, it is supplied through a reducing valve when the engine is not running or running only under light load. A certain amount of high pressure steam is used in manufacturing, in which case it is furnished direct from the boilers.

Exhaust steam is used principally for manufacturing purposes and heating. A small portion, however, is utilized by the feed and hot water heaters. Further means for the heating of water for the manufacturing processes will be provided by an economizer to be installed in the future. The system is to be arranged with a tank in the dye house so that free circulation will take place between it and the economizer, the amount used being supplemented by water from the mains. A by-pass connection from the economizer to the boilers will be used to supply feed water if desired. This method of hot water supply will be particularly serviceable for early morning use in the dye house and the wet finishing rooms. At present the hot water heater supplies hot water for the mill and lavatories in addition to that used for manufacturing purposes. The exhaust steam from the main engine and pump passes through oil separators before admission to the low pressure main. An Austin steam separator is fitted close to the throttle valve. A free exhaust pipe with exhaust head at the top connects with the low pressure mill system, permitting free exhaust if the pressure is sufficient to open the back pressure valve. All steam piping to the mills is carried through underground tunnels.

The pump room on the north side of the engine room contains a 1,000 gallon capacity 18 by 10 by 12 inch Buffalo fire service pump. A hand operated traveling crane reaches all parts of the engine room, and provision is made for the handling of any of the auxiliary apparatus in the basement. Power piping and that for manufacturing purposes was furnished by the G. M. Parks Co., Fitchburg, Mass. The Webster vacuum system of heating is used.

A WASTE CARRIER FOR A WOOLEN CARD.

A device for returning to the feed of a woolen card the waste that drops from the cylinder and carding rolls has recently been patented. The inventor claims that this result is accomplished without danger of the machine clogging and that the waste is mixed uniformly in the batch. The invention consists of a conveyer beneath the cylinder and extending to the feed. This conveyer is also adapted for carrying the material, together with the impurities, over a continuous surface extending from beneath the machine to the bottom of the feeder and provided with a screen whereby the waste is all discharged into the feed and incorporated with the batch. The impurities escape through the screen, the conveyer being wholly above the surface as is shown in the side elevation at Fig. 1.



Dyeing, Bleaching, Printing, Etc.

WOOLEN KHAKI.

BY LOUIS J. MATOS.

The methods in use for dyeing wool khaki are those of the wool dyer exclusively. By reference to the following formulae, each of which calls for standard and well known dyes, the dyer will be enabled to produce at will any shade desired from an olive-green to true khaki.

Mordant the stock (raw wool) with

Bichrome	lbs.	2
Tartar	lbs.	2

Boil for 1 1/2 hours. Dye in a fresh bath with the indicated quantities of dyestuffs, together with 3 to 5 pounds of acetic acid, depending upon the hardness of the water. Enter warm, and bring slowly to the boil and boil for 1 1/2 hours.

In dyeing piece goods, the bath is made up —without any preparatory mordant—with

Glauber's Salt	lbs.	15
Oil of Vitriol	lbs.	3

Enter at about 100° F. and bring slowly to the boil and boil for 1 hour, after which, allow the bath to cool down somewhat, and add the necessary amount of bichromate of potassin, and boil for an additional hour.

Khaki I. (Greenish).

For 100 lbs. Raw Wool.

Alizarine Brown Paste	ozs.	9½
Corruleine A Paste	ozs.	7
Mordant Yellow O	ozs.	⅞

Khaki II. (Medium).

For 100 lbs. Raw Wool.

Alizarine Brown Paste	ozs.	12
Corruleine A Paste	ozs.	4⅛
Mordant Yellow O	ozs	1½

Khaki III. (Reddish).

For 100 lbs. Raw Wool.

Alizarine Brown Paste	lb.	1
Corruleine A Paste	ozs.	6½
Mordant Yellow O	ozs.	2⅛

Khaki IV. (Green Olive).

For 100 lbs. Raw Wool.

Alizarine Brown Paste	ozs.	13
Corruleine A Paste	lb. 1 ozs.	3¼
Mordant Yellow O	oz.	⅝

Khaki I. A (Greenish).

For 100 lbs. Piece Goods.

Acid Alizarine Brown B	ozs.	2¾
Mordant Yellow O	ozs.	1½
Chromotrop F 4 B	oz.	½
Bichromate of Potash	lb.	1

Khaki II. A (Medium).

For 100 lbs. Piece Goods.

Acid Alizarine Brown B	ozs.	3¼
Mordant Yellow O	ozs.	1¾
Chromotrop F 4 B	oz.	⅓
Bichromate of Potash	lb.	1

Khaki III. A (Reddish).

For 100 lbs. Piece Goods.

Acid Alizarine Brown B	ozs.	5¼
Mordant Yellow O	ozs.	3¼
Chromotrop F 4 B	oz.	⅝
Bichromate of Potash	lb.	1

Khaki IV. A (Green Olive).

For 100 lbs. Piece Goods.

Acid Alizarine Brown B	ozs.	2¼
Mordant Yellow O	ozs.	2⅛
Chromotrop F 4 B	ozs.	1⅛
Bichromate of Potash	lb.	1

TWO-COLORED HOSIERY.

A method of dyeing or printing hosiery, by which the inside coming next to the foot is made of a different color from that of the outside has recently been patented in this country. The inventor gives the following account of the process.

Stockings have been made in which the heel, bottom of the foot and toe of the stocking have been made of white or uncolored yarn. It has also been proposed to make stockings that shall be free from this objection by knitting the portion desired of two threads, one of the color desired and the other a white thread and plating the white thread on the inside of the foot or heel, bottom of the foot and toe. The inventor considers that these methods are each open to objection. The white foot and the white heel, sole and toe are condemned because the white often becomes stained and discolored from contact with the leather of the

shoe and becomes unsightly. The plated stocking is also open to the objection that the plated portion of the stocking is never of the full color of the main body. It has a mottled appearance, caused by a blending of the colors of the plated yarns. In such cases the white thread is more or less visible from the outside and the whole of the outside of the stocking is not of the uniform color desired.

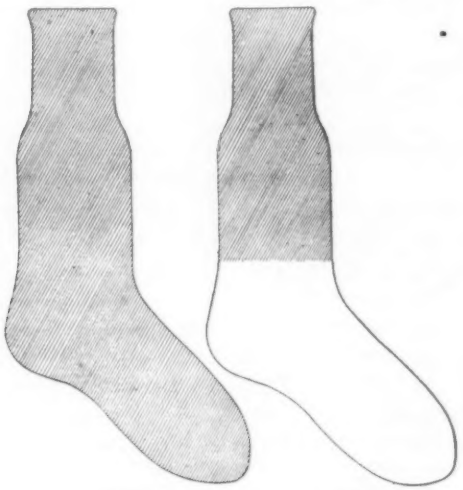


FIG. 1. FIG. 2.

It is claimed that the new method obviates these objections and that the new stocking has the desired uniform color on the exterior and yet has a white interior surface for the entire foot or such portion as is desired. This stocking can be made in several ways. The stocking can be full dyed and then turned and the color on the inside to the extent desired discharged by a suitable discharge medium, or a stocking knit of colored yarn can have the surface on the inside to the extent desired discharged of coloring matter and restored to its original color.

The stocking can be knit of white material and then such parts of the interior surface as it is desired to have remain white, may be printed with what is known as a "resist" and the stocking then dyed, or the exterior of the stocking may be colored by printing after the manner of printing calicoes.

Fig. 1 shows the exterior of the patented stocking. Fig. 2 shows a stocking of which the inner surface of the foot is uncolored. The inventor fails to describe in detail the process of printing or dyeing, in which many difficulties are likely to be encountered.

A DYEING, WASHING AND STRIPPING MACHINE.

The object of improvements embodied in a washing machine recently patented is to provide means for carrying the skeins of silk back and forth while the carrying sections are moved back and forth within the tank, subjecting the skeins to a thorough scrubbing action. One reel of each skein carrying section is driven positively, being locked and released as desired. Means are provided for moving the reel sideways so as to allow the skeins to be inserted and removed. Fig. 1 is a side elevation of the machine.

Each of the yarn frame sections comprises a framework from which rise two parallel rods, which slide vertically through the bar of the yarn frame. This section may be held in its raised position by a hook depending from the bar, which hook is arranged to engage a pin on the skein carrying section. This skein carrying section is provided with one or more traction wheels, in the present instance two, which are arranged to travel along the bottom of the tank as the section is reciprocated within the tank and when in its lowered position.

The section is provided with means for carrying a number of skeins horizontally upon both sides. A number of rotary shafts extend transversely through the framework of the section in a vertical line over the traction wheel. These shafts are positively rotated from the traction wheel through a train of gears. Stationary shafts project from adjustable bars upon opposite sides of the framework of the section in a line above the traction wheel. Each of the rotary shafts is provided exterior to the framework upon both sides of the skein carrying section, with disks which are fixed to rotate with the shaft.

Each rotary shaft is provided with a skein reel, which is arranged to be locked to and released from the disk. The disk of the rotary shaft is provided with holes to receive the inner ends of the pins for locking the reel to the shaft when the reel is at the limit of its inward movement. A spring surrounds the shaft and is interposed between the inner head and a collar fixed to the shaft for holding the reel at the limit of its inward movement. To release the reel from its shaft it is moved outwardly against the tension of the spring a sufficient distance to release the inner ends of the reel pins from the holes in the disk. The other reel of each pair is not locked to and released from its shaft, but is free to rotate, the driving of one of the reels of each pair being sufficient to cause the skein to travel around the reels.

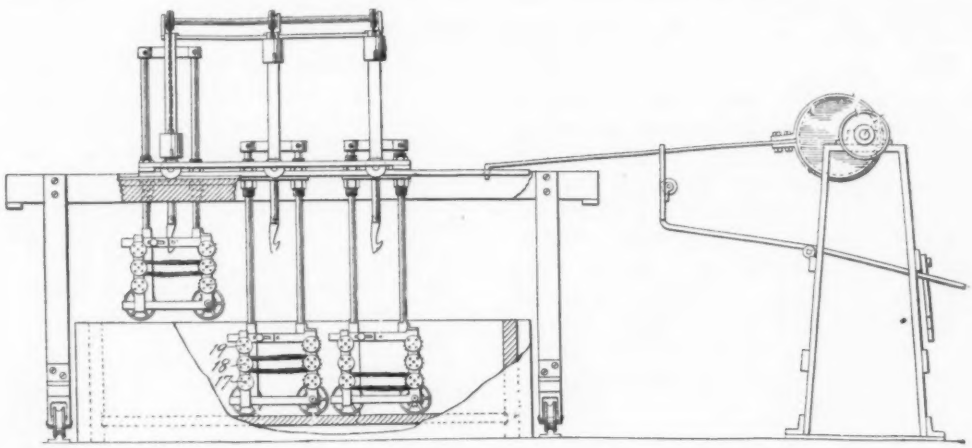


FIG. I.

As the skein-carrying section is moved in one direction along the tank, the skeins will be not only moved bodily in a horizontal position within the tank, but will also travel around their supporting reels in one direction; when the skein-carrying section is moved in the other direction, the skeins will travel on their supporting reels in the opposite direction. This compound movement of the skeins will insure a thorough treatment and scrubbing action on the part of the liquid within the tank, thus insuring a better product than has heretofore been produced.

DISCHARGE EFFECTS ON INDIGO YED GOODS.

BY LOUIS J. MATOS, PH. D.

This class of effects may be produced upon indigo dyed cottons by the use of a variety of agents, principally the chlorates and chromates, but it is the latter which interest us at the present time, mainly from the fact that the best results appear to be obtained by this means, notwithstanding the lurking danger of possible injury to the fabric by the liberation of chromic acid during the passage of the goods through the acid bath. While this has a discharging action on the indigo of the cloth, the chemical change in the cotton resulting in the formation of oxycellulose can but impair the strength of the fabric.

The means adopted to overcome this destructive action of the chromic acid is either to add to the discharge paste such substances as dextrine, glycerine, etc., or oxalic acid, which latter is but used as a component of the acid bath, the usual composition of which is as follows:

Oxalic Acid	50 lbs.
Oil Vitriol, 66°	3 gals.
Water	125 gals.

An important advantage regarding the use of the chromatic discharge is its usefulness

in securing brilliant effects in indigo, in combination with a number of mineral colors, pigments and lakes that can be fixed with albumen, the fixation of which is due directly to the coagulative action of the hot acid bath.

White Discharge.

Bichromate of Potash	36 parts
Boiling Water	75 parts

Dissolve, and neutralize with:

Sodium Carbonate	13 parts

then add a solution of:

Brown British Gum	56 parts
In Water	40 parts

The entire mass is cooked for an hour at 140° to 150° F., allowed to cool, and finally passed through a sieve.

Either the potassium or sodium bichromates may be employed in the above discharge, the latter being slightly cheaper. Carbonate of soda (soda ash), caustic soda, or even ammonia may be used to neutralize the chrome, while if the discharge is to be used with pigment colors and albumen, it has the advantage of improving the consistency of the batch.

A Thickener for General Discharges is as follows:

Tragacanth Paste (6: 100)	64 parts
Bichromate of Potassium	20 parts
Boiling Water	26 parts

Stir until dissolved, and then add

Aqua Ammonia, 21° Be.	10 parts

let cool, and then add

Albumen Solution (1: 1)	80 parts

and stir until thoroughly incorporated.

For an indigo blue dyed shade of medium depth, the following is a representative formula:

Discharge Pigment Standard	60 parts
Thickener (see above)	80 parts
Tragacanth Paste (6: 100)	60 parts

The specific colors adapted for this class of work where albumen is employed are represented by the various Ochres, Vermillions, Chrome Yellows, Chrome Greens, Ivory Black, Imperial Black, etc.

After printing, the goods are well dried, and passed through the acid "fixing" or coagulating bath, heated to 150° F., and then well washed and dried.

Besides the well known pigment colors, the insoluble azo-colors are also well adapted for the purpose by using the chromate process, in which case the dyed cloth must be previously subjected to a naphthol grounding which consists of applying a solution of

Beta-naphthol	4 parts
Caustic Soda Lye, 16%	8 parts
Sulphated Oil	4 parts

After printing and drying, the excess of naphthol is removed by lightly washing the pieces in very dilute ammonia water (4 per cent.), after which the goods are passed through a bath, a "sour" containing 5 per cent. hydrochloric acid and 5 per cent. oxalic acid at 175° to 180° F. Finally wash and soap.

The following are types of discharge pastes adapted to this process:

White Discharge.

Tragacanth Paste (6: 100)	30 parts
Water	50 parts
Chromate of Barium (80% paste)	120 parts

Red Discharge.

Tragacanth Paste (6: 100)	40 parts
Water	20 parts
Chromate of Barium (80% paste)	60 parts
Azophor Red (see below)	80 parts

The azophor red solution used in the preceding "color" is prepared as follows:

Azophor Red	65 parts
Water	180 parts
Caustic Soda Solution Sp. Gr. 1.18	30 parts
Water	90 parts

There still live in Muelhausen, at the head of flourishing print works, equipped with every modern improvement, descendants of early calico printers who towards the close of the 18th century were in the habit of making two journeys a year to Manchester, traveling on horseback to the nearest French port and bring back "per axle" loads of calico to print.

REMOVING FOG FROM DYE HOUSES.

Cleveland, O., Oct. 27, 1908.

Editor Textile World Record:

I was interested in the article on "Removing Fog from Dyehouses" and particularly with the apparatus illustrated at Fig. 4 in your October issue. It reminds me of an arrangement for removing fog, invented by a cabinet-maker named Waddington, which was extensively used abroad some years ago. The arrangement of the roof for this device is shown at Figs. 1 and 2. At the apex of the sloping roof, A, is a narrow opening

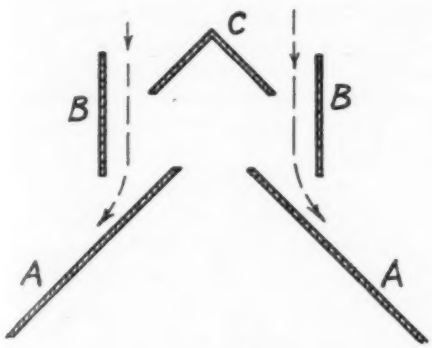


FIG. 1.

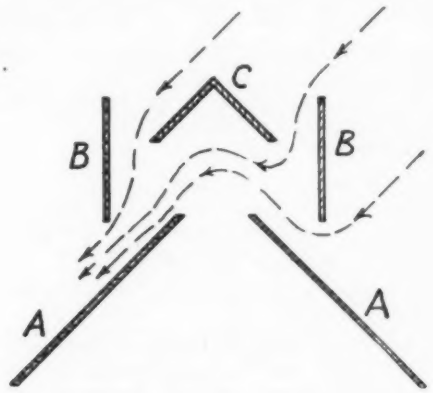


FIG. 2.

which runs to any distance required. Over this opening there is erected a structure having the sides, B, resting at intervals on the roof. There is a cover shaped like an inverted V, shown at C, which runs the whole length of the structure, B, and is fastened to the enclosing ends. As the rain or snow falls as shown at Fig. 1, it passes outside and along the roof without entering the building. The wind from either direction strikes the roof and passes upward as shown at Fig. 2. Thence it continues either upward or across and leaves the structure following the path of the dotted line. I was informed that these openings do not need to be closed, but remain open throughout the year. If, however, there was any reason for closing them in the winter, a suitable door could be arranged for this purpose.

This has always seemed to me a very simple and yet ingenious construction. I have not seen it in use in this country in either a dyehouse, a sizing department, a foundry or any of the other places where a means of getting rid of vapors or gases by what I may term natural ventilation would be useful.

Robert I. Clegg,
Editor of "Woodcraft."

DYEING ON PAPER COPS.

I am sending with this note two samples of cops, one in which the paper is a very dark shade while the other is much lighter in shade and cleaner. The first shows the appearance of most of the cops when used for dyeing with the substantive colors. After many experiments and much study I have succeeded in overcoming the difficulty by using a neutral oil similar to Turkey red oil. The difficulty which I have sought to remedy consists in the paper tubes becoming colored and coated with loose coloring matter which in the subsequent process of dyeing is apt to stain the material. This trouble arises wholly from the construction of the paper tubes. Usually the paper from which the tubes are made is weighted with various chemicals which are injurious in the dyeing process. Furthermore the paste by which the paper is fastened contains sulphate of zinc. Sulphate of aluminum is also used for coating the paper. All of these chemicals are injurious to the substantive dyes. They cause precipitate to collect on the tubes which stains the material that is being dyed. By the use of the oil mentioned this

difficulty is entirely overcome.—Zindulka Janos in the Leipziger Faerber-und Zeugdrucker-Zeitung.

DYE RECIPES.

The following recipes appear in the Dyers' Supplement, which is issued each month by the TEXTILE WORLD RECORD. The Supplement contains the colored samples, dyed according to recipes given. The selection of samples is carefully made, and it is the aim to show shades which are of especial interest to the dyer, and which the requirements of the market demand. The Dyers' Supplement is a 16-page pamphlet, in convenient form for preservation. Subscription price for the Dyers' Supplement $1.00 per year.

Recipe No. 177.

Brown on Worsted Yarn.

Oxy Chrome Brown V on 100 lbs. worsted yarn. Prepare the dye bath with

3 lbs. Oxy Chrome Brown V.
(Geisenheimer & Co., 189 Front St., N. Y.)
10 lbs. Glauber's Salt.
4 lbs. Sulphuric Acid.

Enter at 120° F., raise slowly to a boil and dye at a boil for one hour, or until the bath is exhausted. Cool the bath to 160° F., and then add

1½ lbs. Potassium Bichromate,

bring the bath again to the boil and boil for 3/4 of an hour.

Oxy Chrome Brown V may also be applied according to the monochrome process, that is adding potassium bichromate and acetate of sodium together with the dyestuff at the beginning, and starting with or without acetic acid.

Recipe No. 178.

Olive on Worsted Yarn.

Compound Shade on 100 lbs. worsted yarn. Prepare the dye bath with

3 lbs. Chrome Yellow A C.
1½ lbs. Chrome Blue B.
(E. M. Thayer, 411 Atlantic Ave., Boston, Mass.)
2 lbs. Potassium Bichromate.
3 lbs. Tartar.

Enter yarn at 90° F., raise slowly to a boil and continue the boiling for one hour.

Chrome Yellow A C and Chrome Blue B are both fast to light, milling and numerous shades of light drabs and grays can be produced with them. They dye easily level and feed on at a boil.

Recipe No. 179.

Violet on Cotton Yarn.

Diamine Brilliant Violet B on 100 lbs. cotton yarn. Prepare the dye bath with

1 lb. Diamine Brilliant Violet B.
(Cassella Color Co., 182 Front St., N. Y.)
½ lb. Soda Ash.
20 lbs. Common Salt.

Dye at a boil for one hour.

Diamine Brilliant Violet B gives brilliant shades of violet, penetrates well and dyes level.

Recipe No. 180.

Green on Cotton Yarn.

Compound Shade on 100 lbs. cotton yarn. Prepare the dye bath with

½ lb. Solamine Blue F F.
½ lb. Columbia Yellow.
(Berlin Aniline Works, 213 Water St., N. Y.)
20 lbs. Glauber's Salt (Crystals).

Dye for one hour at a temperature of about 200° F.

Solamine Blue F F and Columbia Yellow when combined produce greens possessing excellent fastness to light.

Recipe No. 181.

Violet on Cotton Yarn.

Diamine Brilliant Violet R R on 100 lbs. cotton yarn. Prepare the dye bath with

1 lb. Diamine Brilliant Violet R R.
(Cassella Color Co., 182 Front St., N. Y.)
½ lb. Soda Ash.
20 lbs. Common Salt.

Dye at a boil for one hour.

Diamine Brilliant Violet R R gives brilliant shades of violet, penetrates well, and dyes level.

Recipe No. 182.

Reddish Brown on Worsted Yarn.

Fast Chrome Brown 4 R N on 100 lbs. worsted yarn. Prepare the dye bath with

1 lb. Fast Chrome Brown 4 R N.
(C. Bischoff & Co., 451 Washington St., N. Y.)
5 lbs. Acetic Acid.

Enter yarn at 140° F. and dye at a boil for one hour, then add

2½ lbs. Potassium Bichromate

and boil 1/2 hour longer.

Fast Chrome Brown 4 R N produces dyeings which are remarkably fast to sunlight, even in light shades.

Recipe No. 183.

Blue on Worsted Yarn.

Fast Mordant Blue E G on 100 lbs. worsted yarn. Prepare the dye bath with

3 lbs. Fast Mordant Blue E G.
(H. A. Metz & Co., 122 Hudson St., N. Y.)
20 lbs. Glauber's Salt.
5 lbs. Acetic Acid.

Enter at 100° F., bring slowly to a boil and dye at a boil for one hour. Then exhaust the bath by adding

2 lbs. Sulphuric Acid.

Cool slightly, and add

2½ lbs. Potassium Bichromate

and boil 3/4 of an hour longer.

Fast Mordant Blue E G possesses good fastness to light alkalies, and perspiration, and also stands a severe milling without loss of depth and without bleeding into the white.

Recipe No. 184.

Reddish Brown on Worsted Yarn.

Fast Chrome Brown 3 R N on 100 lbs. worsted yarn. Prepare the dye bath with

1 lb. Fast Chrome Brown 3 R N.
(C. Bischoff & Co., 451 Washington St., N. Y.)
5 lbs. Acetic Acid.

Enter yarn at 140° F. and dye at a boil for one hour, then add

2½ lbs. Potassium Bichromate

and boil 1/2 hour longer.

Fast Chrome Brown 3 R N produces dyeings which are remarkably fast to sunlight, even in light shades.

Recipe No. 185.

Blue on Cotton Yarn.

Solamine Blue F F on 100 lbs. cotton yarn. Prepare the dye bath with

3 lbs. Solamine Blue F F.
(Berlin Aniline Works, 213 Water St., N. Y.)
40 lbs. Glauber's Salt (Crystals).

Dye at a temperature of about 200° F. for one hour.

Solamine Blue F F possesses extraordinary fastness to light.

Recipe No. 186.

Brown on Cotton Yarn.

Katigen Black Brown B R Extra Conc. on 100 lbs. cotton yarn. Prepare the dye bath with

9 lbs. Katigen Black Brown B R Extra Conc.
(Farbenfabriken Co., 66 Lafayette St., N. Y.)
18 lbs. Sodium Sulphide.
5 lbs. Soda Ash.
50 lbs. Common Salt.

Dissolve the dyestuff together with the sodium sulphide and add to the dye bath which already contains the soda ash. The salt is then added, and the bath boiled up. Then cool to 190° F. The material is then entered and dyed for one hour, just below the boil.

Katigen Black Brown B R Extra Conc. possesses very good fastness to light washing and acids.

Recipe No. 187.

Red on Cotton Yarn.

Helindone Red 3 B on 100 lbs. cotton yarn. Prepare the dye bath with

20 lbs. Helindone Red 3 B.
(H. A. Metz & Co., 122 Hudson St., N. Y.)
4 lbs. Caustic Soda Solution (76° Tw.).
4 lbs. Hydrosulphite (Conc. Powder).
3 gals. Water,

and heat mixture to 120° F., until the solution shows a green color. The water in the dye vat is heated to 140° F., and the above solution slowly added and the yarn dyed at this temperature by making from 3 to 4 dips, the first dip requiring from 20 to 30 minutes. The following dips may be shorter.

After dyeing wash and soap at a boil.

Helindone Red 3 B Paste is very fast to rubbing and ironing, stands washing and chlorine well, and is exceptionally fast to light and acids.

Recipe No. 188.

Blue on Cotton Yarn.

Tetrazo Blue G B on 100 lbs. cotton yarn. Prepare the dye bath with

3 lbs. Tetrazo Blue G B.
(American Dyewood Co., 154 William St., N. Y.)
1 lb. Soda Ash.
25 lbs. Common Salt.

Enter at 180° F. and dye at a boil for one hour.

Tetrazo Blue G B possesses good covering power and average fastness to light.

Recipe No. 189.

Orange on Cotton Yarn.

Toluylene Fast Orange G L on 100 lbs. cotton yarn. Prepare the dye bath with

4 lbs. Toluylene Fast Orange G L.
(Farbenfabriken Co., 66 Lafayette St., N. Y.)
20 lbs. Common Salt.
2 lbs. Soda Ash.

Enter at 180° F. and dye at a boil for one hour.

Toluylene Fast Orange G L produces bright dyeings which possess very good fastness for a direct cotton color.

It is well adapted for the dyeing of half-wool and half-silk material.

Recipe No. 190.

Blue on Worsted Yarn.

Chrome Fast Blue R on 100 lbs. worsted yarn. Prepare the dye bath with

3 lbs. Chrome Fast Blue R.
(Klipstein & Co., 122 Pearl St., N. Y.)
3 lbs. Sulphuric Acid.
10 lbs. Glauber's Salt.

Enter yarn at 105° F., bring slowly to a boil, and dye at a boil for one hour, then add

2½ lbs. Potassium Bichromate,
2 lbs. Sulphuric Acid,

and boil to the desired shade.

Chrome Fast Blue R possesses excellent fastness to washing, milling and light, and can be used in conjunction with other chrome colors.

Recipe No. 191.

Dark Green on Cotton Yarn.

Algole Dark Green B Paste on 100 lbs. cotton yarn. Prepare the dye bath with

20 lbs. Algole Dark Green B Paste.
(Farbenfabriken Co., 66 Lafayette St., N. Y.)
6 lbs. Soda Lye (52° Tw.).
8 gals. Hydrosulphite Solution (27° Tw.).

The dyestuff should be first stirred with warm water, and then added together with the soda lye to the dye bath, the hydrosulphite solution being added last. The temperature is raised to 70°-75° F., whereby the dyestuff will dissolve in a short time.

The dyeing is carried out at ordinary temperature from 3/4 to 1 hour, the material squeezed well, exposed to the air for a short time, rinsed in water acidulated with from 1/4 to 1/2 lb. sulphuric acid per 25 gallons. It is finally rinsed again, soaped, hydro-extracted and dried.

The 27° hydrosulphite solution may be prepared by slowly adding

3 lbs. Zinc Powder to
2¾ gals. Bisulphite of Soda Solution (72°-78° Tw.).

While adding the zinc powder to the bisulphite, the temperature of the solution should not rise above 100° F., and it is therefore advisable to cool it down with ice. After adding the zinc powder, stir well for 1/2 hour, then allow to stand for one hour, and filter the solution through a piece of calico. To this solution add milk of lime, which is prepared by slaking

¼ lb. Quick-lime with
1 pt. Water.

Stir well. After standing two hours, filter the solution and add

1¼ ozs. Soda Lye (76° Tw.),

for every gallon of liquor. The solution is then made up to 27° Tw. with water.

Algole Dark Green B Paste possesses excellent fastness to washing and for that reason may be used in shirtings, ginghams and dress goods. It is also adapted to calico printing, being printed in conjunction with Rongalite and steamed in a Mather-Platt machine.

Recipe No. 192.

Scarlet on Cotton Yarn.

Benzo Scarlet B C on 100 lbs. cotton yarn. Prepare the dye bath with

3 lbs. Benzo Scarlet B C.
(Farbenfabriken Co., 66 Lafayette St., N. Y.)
2 lbs. Soda Ash.
20 lbs. Common Salt.

Enter at 180° F. and dye at a boil for one hour.

Benzo Scarlet B C gives a very bright scarlet, dyes easily level, and possesses good fastness to acetic acid and alkalies. It produces almost solid shades upon cotton and wool mixed goods, and may also be used to advantage in the dyeing of straight wool material.

Returns of weekly expenditure on food from 156 typical working-class families in Chemnitz showed an average weekly consumption of meat per head of slightly less than 15 ounces a week, or at the rate of about 49 lbs. a year. Of this total 33 per cent. was beef, 27 per cent. was pork and bacon and 25 per cent. was sausage.

Mill News.

Those interested in receiving early and more complete investigated information of projected new mills, enlargements, improvements, fires facts and gossip of the trade are referred to the Textile Advance News, issued weekly by the publishers of the Textile World Record, at $15.00 per year.

COTTON.

New Mills.

*Alabama, Columbia. A. D. Wood advises that he is building a plant which will probably have capacity of 10,000 spindles, but he is not prepared to advise as to the initial equipment. It will be September, 1909, before the building is completed. It will be operated by water power and the product will be sheetings and shirtings principally. Mr. Wood states that he may operate the plant himself, but would rather lease it to suitable parties.

Connecticut, New Hartford. It can be stated that the Greenwood Mill owned by the Consolidated Cotton Duck Co. will be reopened after an idleness of several years. Spur tracks leading to the mill have been repaired by the railroad and other indications about the plant give the impression that the mill will be running as soon as machinery can be installed and put in position for manufacturing. Investigation has not revealed the particulars of starting up. T. M. Turner of J. Spencer Turner Co., 85 Worth St., New York, has the matter in charge.

Georgia, Atlanta. The Raiford Mfg. Co. has been granted a charter with capital stock of $25,000 with the privilege of increasing to $100,000. It is understood that a cotton mill will be erected and equipped. The incorporators are J. A. Raiford, W. T. King and W. V. Cox.

*Georgia, Griffin. The Cherokee Mills, incorporated late in 1907, have their buildings practically completed and will begin manufacturing as early as possible. J. J. Mangham is president and buyer. Full equipment of machinery and supplies has not been contracted for.

*Georgia, Manchester. The Manchester Cotton Mills have been incorporated with capital stock of $250,000. Fuller E. Callaway, C. V. and S. H. Truitt and others are the incorporators. It is reported that construction work will begin immediately toward the erection of mill buildings. Details have been given previously.

*Massachusetts, Wilkinsonville. The officers of the Army & Navy Cotton Duck Co. are as follows: John H. Meyer, New York, president; Thomas W. Slocumb, treasurer, and Walter Stolp, secretary. The building has been completed and installing of machinery has been started. Sam. Hird is in charge.

*New York, Cohoes. Machinery equipment is being installed in the new mill recently completed for Fuld & Hatch Knitting Co. Cotton may be run through some of the machines next week.

*North Carolina, Charlotte. Plans and specifications from Stuart W. Cramer for the Jewell Cotton Mills building, call for a structure one story high, 75 by 308 ft. Early reports have given other particulars. T. J. Lillard is treasurer and will attend to the buying. He may be addressed at Four C's building, Charlotte.

*North Carolina, East Monbo. The Turner Mills Co. have arranged to push the completion of the new plant and begin manufacturing at the earliest date possible. Construction work started early in 1908. W. B. Turner is president of the company, C. M. Steele, vice president, and E. G. Gaither, treasurer, all of Statesville, N. C. The company has a paid-in capital stock of $150,000.

North Carolina, Lexington. It is reported that a cotton mill will shortly be erected here for the manufacture of colored cotton cloth. C. A. Hunt, Jr., of this place is at the head of the project. He plans to have capital stock of $125,000 and to erect a factory to be equipped with 10,000 spindles and 250 looms. He intends to begin construction work in the spring.

*North Carolina, Vass. A. Cameron is in charge of the erection of a cotton mill previously reported to be under construction and advises that a company will be organized and charter secured shortly. Mr. Cameron expects to begin manufacturing about the middle of 1909. 20s to 30s soft yarns will be the product.

Enlargements and Improvements.

*Alabama, Eufaula. B. B. Comer, president and treasurer of the Avondale Mills, Birmingham, Ala., is the party who has secured controlling interest in the Eufaula Cotton Mill. It is understood that extensive improvements will be made to the plant, costing in the neighborhood of $50,000.

*Connecticut, Danielson. It is expected that within four weeks the addition being made to the Danielson Cotton Co. will be practically completed and machinery in operation in part of it.

Connecticut, Jewett City. The Ashland Cotton Co.'s plant has closed while improvements are being made in the boiler room. Manufacturing will be resumed as soon as improvements are completed.

Connecticut, Moodus. The lower mill of A. E. Purple has been shut down while extensive improvements were being made. A new maple floor has been laid in the spinning room and ten old frames have been taken out and nine new frames will be installed in their place.

*Connecticut, Packerville. The new equipment being installed at the present time by the Cutler Mills Co. is a new boiler for heating purposes. Reports that a large amount of new machinery will be added are exaggerated, as with the exception of a small addition to power equipment and

the probable adding of a measuring and folding machine and warping and beaming machinery, no equipment will be added. This company manufactures specialties in cotton fabrics. Wm. C. Reid is president, Phillip E. Dudley, treasurer, agent and buyer, and Charles Gamble, superintendent. They buy 20s to 80s yarns.

Connecticut, Uncasville. The Uncasville Mfg. Co. has installed new picking machinery. The mill is operating on full time.

Connecticut, Westport. Work on a new dye house to be built for the Lees Mfg. Co. was begun last week. When finished this department will enable the company to dye all their own yarns. All kinds of twine, cords, wicks and yarns are manufactured on 5,000 ring and 3,000 twisting spindles and 250 braiders. James E. Lees is buyer.

*Connecticut, Willimantic. The Windham Mfg. Co. is to equip its plant with electric drive, which will be installed by the Crocker-Wheeler Co.

Georgia, Eatonton. The Putnam Mills & Power Co. are now operating in full. A quantity of new machinery was installed during the time when the policy of curtailment was in effect. Flat duck and osnaburgs are manufactured.

*Maine, Westbrook. The Dana Warp Mills advise that a new mill is being built so as to consolidate the machinery of the two mills in one building. They advise that they cannot state when new machinery will be put in.

Maryland, Baltimore. The Phoenix Mill of the Consolidated Cotton Duck Co. will be equipped and started up as soon as possible. E. C. Thomas, general engineer for the Consolidated Cotton Duck Co., is quoted as saying that it will require about four months to secure new machinery and set it up. It is reported that 100 looms and 6,000 spindles will be installed. This mill was closed by the Duck Co. after the consolidation, because it was said to be unproductive and unprofitable and was dismantled and some of the machinery sent to other mills. The property was then bought by Henry D. Perky. It was understood some time ago that the Phoenix Mill would be needed by the city in connection with the new reservoir, but the decision of the Water Board to purchase the Warren Mfg. Co.'s plant as reported in another part of this issue, disposes of this possibility.

*Massachusetts, Blackstone. The new spinning frames recently reported to be added to the equipment of the Blackstone Mfg. Co. have been received. This increases the number of spindles operated at the mill by 1792.

*Massachusetts, Fall River. It is reported that Wm. T. Henry of this city has been engaged by the directors of the Sagamore Mfg. Co. to prepare plans for its new mill. As reported previously, 50,000 spindles will be installed. Stockholders will be entitled to subscribe for one share of the new stock issue for every three shares held at present, as reported last week; payments for the new stock to be made as follows: 25 per cent. on March 1, 1909, 25 per cent. on July 1 and 50 per cent. on September 1.

Massachusetts, Fall River. No definite decision has yet been reached, but it is probable that an addition will be built to the Maplewood Mills. This project was first considered about a year ago and it was then intended to proceed with the erection without delay, but the business depression came and the directors decided to set the plans aside for a time. John H. Estes is president, J. Edmund Estes, treasurer, and F. [illegible], superintendent. Absorbent, bleached cotton are manufactured on 97 cards.

*Massachusetts, Holyoke. The contractor will complete the outside work on the new mill for Wm. Skinner Mfg. Co. this week. This is a 4-story structure, 60 by 304 ft., and will be equipped with 15,000 spindles and 400 looms.

Massachusetts, Holyoke. New boilers have arrived for the American Thread Co.'s Jackson St. plant. Three new boilers will be installed.

*Massachusetts, Lawrence. Owing to necessary changes in machinery, outlined in October, the upper plant of the Pacific Mills, which is devoted to cotton goods only, is practically closed. The lower plant, devoted to worsted, is not in any way affected. The large addition to this department is progressing favorably and contract for a large steam turbine, similar to the three turbines in service in their power plant, has been awarded.

*Massachusetts, Lawrence. A special meeting of the stockholders of the Everett Mills has been called for Dec. 9 in the treasurer's office, 24 Milk St., Boston, for the purpose of considering an increase in the capital stock by issuing 7,000 new shares, par value $100 each. The purpose of this proposed increase is to provide funds for the erection of a new mill, which has been noted previously.

*Massachusetts, Thorndike. A large gang of men is employed on the new picker building at No. 2 Mill of the Thorndike Co. The work is progressing rapidly and will soon be completed.

Massachusetts, Ware. Contract has been awarded for a steam turbine with direct connected generator, by the Otis Co. New equipment will be installed as early as possible.

*Massachusetts, Webster. Contract for the erection of the new weave shed for S. Slater & Sons has been awarded to the Torrington Building Co. of Torrington, Conn. Foundation will be completed during the winter and the Torrington Co. will begin on its part of the contract in the early spring. The building is to be two stories high, of mill construction, 464 by 134 ft., with saw-tooth roof. The total cost of the building will be in the neighborhood of $180,000.

*New Hampshire, Newmarket. Twenty 45-inch revolving flat cards and twenty-six 62-inch cotton looms have been added to the equipment of the Newmarket Mfg. Co. This company has capital stock of $600,000 and manufactures sheetings, drills and sateens on 5,088 mule spindles, 55,872 ring spindles and 2,293 looms. D. L. Pickman is president, Charles Walcott is treasurer and W. H. Garner is agent and buyer. The product is sold through Amory, Browne & Co.

*New Jersey, Newark. The Clark Thread Co. is running some departments by electricity, the change from steam power having been partially

completed. Preparations for this change have been under way since about March, 1908. As reported last week, the mill returned to full time on November 9.

New Jersey, Newton. The Standard Towel Co. is adding 4 additional looms, making the total equipment 16 [illegible] Towels, wash cloths and similar goods are manu[illegible]. W. H. Mellor is buyer.

*New Jersey, Paterson. Construction work has been started on the new addition for the H. F. Danner Textile Co. The new structure will be one story high, 110 by 160 ft., brick contruction. This company manufactures cotton and silk ribbons and shoe laces on equipment at present of 15 looms.

New Jersey, Passaic. The Passaic Mills, A. McLean Co., will erect a 2-story brick addition 50 by 153 ft. to be used for storehousee. It is stimated the cost will be in the neighborhood of $15,000. This company has capital stock of $1,000,000 and manufactures and finishes cotton fabrics.

*North Carolina, Kings Mountain. It is understood that the Cora Cotton Mills are planning the addition of a quantity of new machinery, probably to the extent of 10,000 spindles. This will practically double the present equipment.

North Carolina, Laurinburg. Two thousand new spindles and three roving frames have been purchased by the Scotland Cotton Mills and will be put in operation as soon as possible.

*North Carolina, Lexington. Additional machinery reported as being installed in the Nokomis Cotton Mills has already been set up and is in operation. They now have 14,900 ring spindles and 372 looms. C. A. Hunt is president, superintendent and buyer and John T. Lowe is treasurer. The product is sold through H. J. Farber Drewry & Co.

North Carolina, Lowell. A report states that the Peerless Mfg. Co. may add several thousand spindles, increasing the present equipment from 5,000 ring spindles to 10,000 ring spindles.

*North Carolina, Lumberton. Six Nasmith combers, ribbon lap and sliver lap machines will be installed in the Dresden Cotton Mills. Contracts have been awarded. Ten thousand ring spindles are operated on 18s to 30s hosiery yarns.

*North Carolina, Rock Hill. It is reported that Hamilton Carhart has awarded the contract to equip the addition to the Hamilton Carhart Mills. A 2-story addition 70 by 80 ft. is under construction.

*North Carolina, Salisbury. The Salisbury Cotton Mills have awarded contract for motors of 300 h. p. in connection with the proposed change from steam to electric power.

*North Carolina, Spartansburg. New machinery has begun to arrive for the Saxon Mill. Details of this enlargement have been given in previous reports.

Pennsylvania, Clifton Heights. The Colonial Manufacturing Co., who are outgrowing their present quarters, are arranging for the erection of a new addition to their mill in which to install new looms. The plant, which contains 30 looms, operated on Turkish towels, is now being run to its full capacity both day and night in an effort to fill the orders they have on hand. They also dye and bleach their own product.

Pennsylvania, Norristown. The Wyoming Spinning Co., manufacturers of cotton yarns for the knitting trade, operating 5,000 ring spindles, have recently replaced all their old frames with new ones and have also put in new Broadbent winders. They are very busy working day and night, being sold up to March next.

Pennsylvania, Philadelphia. The Ontario Spinning Co. reports that a large volume of business is being received and they have placed orders to increase their carding department one-third. Cotton hosiery yarns are manufactured on an equipment at present of 6,428 ring spindles. Wm. T. Westerman is manager and buyer. The company has capital stock of $75,000.

Rhode Island, Pawtucket. It is understood that two additions to the Royal Weaving Co. will be built. The buildings will be 175 by 500 ft. and 100 by 500 ft., 2 stories high. One thousand eight looms will be installed in the first building and warpers, spoolers and other preparatory machinery in the second building.

Rhode Island, Pontiac. A new dynamo has been installed in the Pontiac Mfg. Co. It is understood that a second dynamo will be added in the near future.

South Carolina, Chester. The Eureka Cotton Mills and Springstein Mills of this place and the Lancaster Cotton Mills of Lancaster will change over to electrical drive. About 2,500 h. p. will be required for the Lancaster Mills and 750 each for the Eureka and Springstein. Le Roy Springs is president of the three mills.

*South Carolina, Spartanburg. The cloth room extension at the Saxon Mills has been completed. Details of this improvement were given in September.

*South Carolina, Union. The Union Buffalo Mills Co. is putting in the first of 2,200 new Draper looms which will be installed and the shafting and motors are being put in place. If everything goes as planned, they should have all the machinery running by May 1, 1909.

*Texas, West. The Brazos Valley Cotton Mills have resumed manufacturing, the extensive repairs necessary in the plant having been completed. This company operates 6,140 ring spindles and 210 looms and has capital stock of $100,000. F. A. Ferris, Waxahachie, Texas, is president, and J. H. Chambliss is manager and buyer.

*Wisconsin, Baraboo. In addition to increasing their water power equipment, Geo. McArthur & Son, proprietors of the Baraboo Towel Mills, are adding a number of new Turkish towel looms. They are also making improvements and adding supplies in all departments. They are interested in looms, power plant equipment, bleaching and

finishing machinery and all equipment which enters into their line. Geo. McArthur is buyer.

Mills Starting Up.

Georgia, Tifton. The Tifton Cotton Mills have resumed manufacturing after being closed for several months. It is reported that the full product until January has been contracted for. 24s to 40s, two, three and four ply yarns, are manufactured on 5,300 ring spinning spindles and 3,000 twisting spindles.

*Massachusetts, Taunton. Workmen are engaged at the Canoe River Mill, known as Dept. 20 of the N. E. Cotton Yarn Co., making repairs in order that everything may be ready for the resuming of business there which is now expected to commence in about two weeks. Master mechanic Wm. Brady is overseeing the repairs that are in progress at the mill.

*South Carolina, Union. The Aetna Cotton Mills have been sold to James E. Mitchell & Co., selling agents with offices in Boston, New York and Philadelphia, for $200,000. It is understood that the mill will be put in operation within the next thirty days. Equipment is 20,602 ring spindles and 500 looms, which were operated on print cloths and cotton yarns.

Mills Shutting Down.

North Carolina, Bessimer City. It is reported that the Smith Cotton Mill Co. has shut down indefinitely. The Bessimer City Cotton Mills under the same management have been closed for some time

WOOLEN.

New Mills.

*Kentucky, Louisville. The Bradford Worsted Spinning Co., reported incorporated some time ago with capital stock of $25,000, has begun manufacturing worsted yarn. James Williams is in charge.

*Massachusetts, Lowell. The Deavitt Mfg. Co., recently reported incorporated with capital stock of $5,000, is operating 12 Knowles looms, one dresser, and doing their own burling and sewing. The plant is located at 287 Thorndike St. The finishing is done in the C. A. Root properties at Uxbridge. All worsted yarns are bought. J. J. Deavitt is president and manager, and A. A. Sprague of Uxbridge is treasurer.

*Massachusetts, Monson. It is expected that the new Ellis Mill will be completed, as far as outside work is concerned, in about thirty days, if weather conditions continue favorable. The inside work will be completed during the winter and the plant put in operation in the spring. A large new chimney is being erected. Particulars of this project have been given previously.

*Michigan, Pickford. E. S. Taylor is proprietor of the new Pickford Woolen Mills Co. and will attend to the buying. He is interested in a second hand boiler for heating purposes only, also in supplies. Complete particulars of this company have been given.

*New Jersey, Garfield. The first authoritative description of the new woolen and worsted mill to be erected for the Forstmann-Huffmann Co. of Passaic is as follows: A spinning mill 500 ft. in length by 400 ft. in width and weave shed 400 by 600 ft. are to be erected on the Passaic River near the Dundee Dam. Contract for construction work has been awarded to John W. Ferguson Construction Co.

*Rhode Island, Allendale. It is practically certain that the old Allendale Mill property will be equipped for worsted spinning and about 2,000 spindles installed as initial equipment. Henry A. Kirby, a manufacturing jeweler of Providence, is interested and Geo. Darsie, at present employed in the Crown Worsted Mills will, it is stated, be interested in the new company to be formed presently. No details have been given out and we are advised will not be given out until the company is organized.

*Rhode Island, Providence. Practically all the machinery equipment has been installed in the new Colored Worsted Mills and manufacturing will be started within a few days. For the present it is stated that only gray yarns will be produced, but as indicated by the name, the company will eventually manufacture colored worsted yarns. Joseph Lister of the Centredale Worsted Mill is at the head of this company. 2/20 to 2/60 yarns will be manufactured.

*Rhode Island, Providence. Work has started on the foundation for the new weave shed of the Elston Worsted Mills. It is stated that about 100 new looms will be installed. The Elston Co. installed spinning machinery in the old R. I. Worsted Co.'s plant a few months ago.

Wisconsin, Baraboo. The Island Woolen Co. has installed a new 115 h. p. boiler and completed a small addition to the boiler house. They operate six sets of cards and 20 looms on men's woolens, dress goods, overcoatings, etc. This company is not incorporated. F. E. Morey is superintendent and E. P. and W. H. McFetridge, the proprietors, attend to the buying. Further improvements are contemplated and they are interested in concrete work and construction, also a feed water pump.

Enlargements and Improvements.

Connecticut, Mechanicsville. A new turbine water wheel is being installed at the plant of the French River Textile Co. The mill is running full time and overtime a number of evenings a week, and would be kept running night and day but for the reduced water supply.

*Connecticut, Stafford. After being shut down for two months, the Phoenix Woolen Co. has resumed manufacturing. During the period of idleness a brick addition, 54 by 82 ft., one story high, was erected, and 5 sets of cards and a new engine of 125 h. p. installed. This improvement was outlined in June.

Connecticut, Thompsonville. It is announced that work will be started at once on the construction of a 3-story brick addition to the Hartford Carpet Co. A large quantity of machinery will be contracted for.

*Connecticut, Torrington. The new mill of the Warrenton Woolen Co. is practically completed and ready for equipment, which will be installed immediately. The machinery equipment consists of six sets of cards, 8 mules, 30 Crompton & Knowles looms, and dye house and finishing machinery. Manufacturing will be begun about April 1, 1909. The new mill replaces the old building of this concern.

Iowa, Des Moines. A sprinkler system has been installed in the Capital City Woolen Mills at a cost of $5,000. Business with this company is reported excellent.

Maine, Dexter. Fourteen new looms are being added to the equipment of the Wassookeag Woolen Co. The outlook for a busy winter for this mill is good. Business at the other mills is picking up. The Dunbarton Woolen Mill is running full time, and Abbott & Latimer Co. running very nearly on full production.

*Maine, Foxcroft. Upon the completion of the new mill being erected for Mayo & Sons they plan to build a new dye house. Construction work is progressing rapidly on the new woolen mill.

*Massachusetts, Farnumsville. The price paid by S. Slater & Sons, Inc., of Webster, Mass., for the Excelsior Mills property was sufficient to permit the settlement of the liabilities of the company on excellent terms. The new owners propose to continue operations at the mill for the present at least and the plant is in full operation. The assignees named in April, Frank B. Smith of Worcester and Albert H. Chamberlain of Cambridge, are acting as attorneys to carry to completion the readjustment plans. The name of the mill has been changed from the incorporated name of Excelsior Mills to the Wuskanut Mill.

Massachusetts, Haverhill. It s reported that the local branch of M. T. Stevens & Sons Co. is adding machinery for the manufacture of men's wear worsted goods. Up to a short time ago the mill was run entirely on ladies' dress goods.

*Massachusetts, Holyoke. The rebuilding of the warp dye house of the Farr Alpaca Co. will be completed as soon as possible. Work has already been started.

Massachusetts, Lawrence. New machinery is being installed in the reeling room of the Arlington Mills.

Massachusetts, South Barre. A new 2-story mill, 220 by 180 ft., will be erected for the Barre Wool Combing Co., Ltd. When completed and equipped the production of the company will be increased more than one-third. In April construction work was started on a hydro-electric plant. The improvements were necessary owing to increased business of this concern.

Massachusetts, Uxbridge. A new double shear has been installed in the Davis & Brown Woolen Co. and improvements are being made to the wattr power equipment. The mill is being operated full capacity.

Montana, Manchester. Sam. H. Wood, president and buyer of the Manchester Woolen Mills, Inc., is investing additional capital in equipment and expects to put the mill on a better basis than ever in a short time.

*New Hampshire, Tilton. In additon to erecting a new dye house, A. D. Carter will add 480 new woolen spindles. This company manufactures ladies' dress goods on six sets of cards and 40 broad looms. The product is sold through Deering, Milliken & Co. A. D. Carter is treasurer and buyer and A. S. Carter, superintendent.

New Jersey, Beverly. The Standard Combed Thread Co., recently reported as removing their plant from 3d and Erie Sts., Camden, to this town, are installing their machinery and expect to have the mill in operation by the 1st of December. They are carbonizers and manufacturers of wool stock and wool packing threads, operating 7 cards, 4 garnets and 4 carbonizers, selling direct.

*New Jersey, Freehold. The addition to the plant of A. & M. Karagheusian is being rushed and the company expects to have machinery installed ready for manufacturing by Feb. 1, 1909. Twenty-five looms will be installed for manufacturing rugs. None of the machinery has been contracted for and the company is interested in receiving information on full line of machinery and supplies.

*New Jersey, Garfield. At a meeting of the directors of the New Jersey Worsted Spinning Co. it was voted to double the output of the plant. We reported early in October that plans were being considered for an addition, one story high, 150 by 250 ft. It is probable that work will be started on this building at once and a large amount of new machinery will be added. The New Jersey Worsted Spinning Co. has capital stock of $1,000,000 and manufactures worsted yarns on the French system on 40 combs, 33 cards and 50,000 spindles. Rudolph Kleinjung is secretary and general manager.

*Rhode Island, Lafayette. The installation of new boilers in the Rodman Mfg. Co.'s plant has been completed and the mills have resumed full time schedule. Suitings, skirtings, etc., are manufactured on 8 sets and 150 looms.

Rhode Island, Mapleville. The new dye house being erected for the Coronet Worsted Co., plans of which were mentioned in July, is one story high, 80 by 45 ft., of cement construction. Good progress is being made on the building.

*Rhode Island, Thornton. The proposed additions to the Victoria Mill are in the form of enlargements to two storehouses, one story on each building, which will be used for increasing facilities for wool sorting. Definite plans have not been decided upon.

*Rhode Island, Woonsocket. The new mill under construction for the Lowland Worsted Co. is nearly completed. As reported previously, about 4,000 worsted spindles, Bradford system, will be installed.

Rhode Island, Woonsocket. It is stated that the matter of erecting a new mill is under consideration by the directors of the Woonsocket Spinning

Co. According to report, a 2-story structure 100 ft. square has been planned. The company states that nothing has been decided yet and no decision can be reached before Jan. 1, 1909. Four acres of land have been purchased.

Mills Starting Up.

*Kentucky, Louisville. Within the past few days part of the machinery of the Mayfield Woolen Mills Clothing Co. has been started up and the outlook is that the mill will be running at maximum capacity within a short period. A receiver was appointed for this company in February and discharged April 30. Notes were issued in favor of creditors in settlement of the indebtedness of the company.

Massachusetts, Quinapoxet. Early in October the mill of Cyrus G. Wood & Co. shut down for what was stated to be an indefinite period. Owing to the brightening up of business, manufacturing has been resumed in all departments. Nine sets and 124 looms are operated on satinets and piece dyes.

Massachusetts, Rutland. Beginning this week, the plant of A. C. Moulton will resume manufacturing after a shut down lasting since Jan. 15. Full production cannot be turned off as yet, only one set of cards of the three sets being in operation. During the shut down the water supply was improved. Satinets are the product.

Massachusetts, Westboro. The Westboro Mills, which shut down indefinitely in June, will resume manufacturing at an early date. Carpets are manufactured on 28 looms.

New Hampshire, Kezar Falls. Machinery is being started as fast as possible in the Kezar Falls Woolen Co. in order to get the full complement of employes at work, on orders received recently, as soon as possible. A new dam was recently built to improve the water power of this company.

SILK.

New Mills.

*Maryland, Hagerstown. Charles W. Cromer of the Hagerstown Silk Co., and Victor M. Cromer, are proprietors of the new silk mill which will be built under the direction of Charles W. Lloyd, contractor. The building will be 2 stories high, 120 by 36 ft. Machinery will be installed ready to begin manufacturing silk ribbons about March 1.

*New Jersey, Netcong. Plans for the new branch mill to be started at this place by the Wm. H. Ashley Silk Co., operating plants at Hackettstown and Phillipsburg, N. J., and other places, are not advanced sufficiently to give the name of the company, officers or equipment. The same class of work will be done as in the other plants of this company and Wm. H. Ashley, Hackettstown, will be buyer. Work is going forward on the foundation for a building 45 by 180 ft.

New Jersey, Paterson. The new mill erected by P. S. Van Kirk Co. on Godwin St. for B. Edmund David has been completed and looms are being installed. As reported previously, the full equipment will consist of 350 looms for the manufacture of fancy tie silks and novelties. Mr. David has an office at 79 Greene St., New York.

*Pennsylvania, Macungie. The new silk company previously reported as contemplating the starting of a small silk mill in this city has not been organized and the identity of the promoters has not been disclosed. There seems to be no doubt that a movement is under way for the starting of a new silk mill.

*Rhode Island, Providence. The American Silk Spinning Co. has been incorporated with capital stock of $250,000. Edgar J. Lowenstein is president and M. C. Migel is treasurer. When the full equipment has been installed the company will have 7,000 spindles installed in the old Oriental Mfg. Co.'s plant at the corner of Whipple and Admiral Sts., which was purchased early in 1908 by Mr. Lowenstein. They will manufacture spun silk (Schappe), sewing silk and insulating silk, all sizes. The plant is equipped with a dye house for dyeing yarn, and steam power. The product will be sold direct.

Enlargements and Improvements.

*Connecticut, New London. The Post property has been purchased by the New London Wash Silk Co., Inc. Work will probably be started on a new dye house within three weeks.

Connecticut, Norwich. J. B. Martin Co., manufacturers of silk velvets on 200 looms, have awarded the contract for a new storehouse, 40 by 60 ft., to H. Blackledge Co.

*Connecticut, Norwalk. Ten new looms are being installed in the addition erected by the Muller Gloria Mills. A second addition is being erected which, it is understood, will be used for a machine shop.

*Michigan, Belding. Three hundred additional hands will be given employment when the proposed addition to Belding Bros. & Co.'s plant is completed. Machinery for the manufacture of broad silk goods will be needed. F. W. Howard is superintendent and buyer. Belding Bros. & Co. also operate plants at Northampton, Mass., and Rockville, Conn.

Pennsylvania, Shamokin. It is reported that J. H. & C. R. Eagle, Inc., have given an order for a $20,000 extension to their mill. They are manufacturers of yarn dyed goods, operating 600 broad looms by steam and electricity.

MISCELLANEOUS.

Connecticut, Moodus. C. W. Potter has been awarded the contract for the erection of a cotton storehouse, 24 by 50 ft., for the Neptune Twine & Cord Mills, Inc.

*Georgia, Atlanta. The capital stock of the new Southeastern Mills is $10,000, with privilege of increasing to $100,000. Samuel L. Ayres is president and Geo. C. Spier is treasurer. The main object of this company is the handling and sorting of waste from cotton mills. The product will be sold direct and through Ayres, Bridges & Co.,

Boston, and G. G. Smith Cotton Product Co. The plant is now ready to start manufacturing and will give employment to 35 to 40 hands.

Georgia, Palmetto. H. L. Johnston, vice president and general manager of the Palmetto Cotton Mills, is interested in the organization of a company with capital stock of $25,000 to erect a mill for the manufacture of bands and collars.

*Illinois, Zion City. Marshall Field & Co. are contemplating the erection of a power plant which will supply power, light and heat to the Zion City Lace Industries. Improvements will include new buildings, boilers, engines, etc. They expect to commence building operations in the near future. The Zion City Lace Industries are running eighteen hours every day with two shifts of operatives working nine hours each. Five new lace machines are being installed for the making of plain nets, all-overs, laces and edgings.

*Massachusetts, Amherst. The Brown Mercerizing Co., which succeeded to the business of J. E. Brown of Holyoke, has started operations giving employment to 20 hands. They manufacture mercerized yarns, crochet and darning yarns, and do mercerizing, dyeing and winding for the trade. The capital stock of the company is $50,000. E. D. Marsh is president, M. A. Dickinson, treasurer, and C. E. Watson is agent, superintendent and buyer. The plant is operated by electric power.

*Massachusetts, Fall River. The Hopkinson Dyeing & Textile Works is the name of the new concern which we reported early in October proposed to operate a knitting mill at this place. It was decided to start a dyeing department first on work for the trade. Yarns, narrow fabrics, braids, tie bands, etc., are being dyed at the present time. Later knitting machinery for manufacturing half hose will be added. The company occupies a small building 35 by 90 ft., 2 stories high, with separate boiler house. Thomas Hopkinson, who was formerly overseer of dyeing in one of the N. E. Cotton Yarn Co. mills, is proprietor.

*Massachusetts, Fall River. The new engine and generator for the American Printing Co. has arrived and preparations are being made for its installation. Ten new boilers were added two weeks ago, making a total of 51 boilers installed.

Massachusetts, Indian Orchard. Contract for additional looms has been awarded by the Hodges Fiber Carpet Co. The plant is running to its full capacity. Fiber carpets, art squares, etc., are manufactured on an equipment at present of 250 looms.

Massachusetts, Lowell. The G. M. Parks Company of Fitchburg, Mass., are installing a turbo humidifier equipment in Lowell Textile School, Lowell, Mass.

Massachusetts, Southbridge. A new concern known as the Southbridge Slipper Co. has been organized and on Nov. 10 started manufacturing men's, women's and children's felt slippers. The top floor of the machine shop of Newton E. Putney, with power, has been leased. Felt is purchased in the market. F. E. Ridley, Carl Lindahl and J. E. Overton are the proprietors.

*Massachusetts, Wales. Plans are being drawn for a new building about 100 by 60 ft. adjoining the present plant of the Textile Specialties Co., formerly the Berkeley Woolen Mill, in which there will be placed a complete equipment for the manufacture of gloves from various fabrics, which they will manufacture in the old plant. They will also make some lines of fine woolen specialty fabrics in addition to those which will be cut up at the plant for gloves. Quite a diversified product will be manufactured into which will enter fine wool and noils as well as clean worsted and cotton wastes and staple cottons. The Textile Specialties Co. incorporated several weeks ago with capital stock of $150,000. P. Kenyon, New York, is president, J. B. Perkins, Boston, treasurer and Herbert E. Shaw, formerly proprietor of the Berkeley Woolen Co., general manager and buyer.

*Massachusetts, Worcester. The Worcester Wadding Mfg. Co., reported incorporated some time ago with capital stock of $3,000, has no connection with the Worcester Dusting Mill and it is understood that a new plant will be equipped. Nathan Pemstein is interested in both concerns.

*New Jersey, Bayonne. "Leolastic," a corporation incorporated under the laws of Maine with paid in capital of $100,000 in January, 1908, secured a New Jersey charter on October 15 with capital stock of $1,000,000. This concern has completed a brick building 175 by 250 ft. which is being equipped with 100 Crompton & Knowles elastic ribbon looms. Manufacturing will begin the second week in November. Silk, mercerized and cotton elastic ribbon will be the product. Geo. C. Moore and Albert Herbert are at the head of the concern and are the buyers. The building erected is of the most modern construction and is equipped with automatic sprinklers and a 50,000 gallon tank 150 ft. above the street. They are in the market for supplies of all kinds.

New Jersey, Burlington. The Backman Braid Manufacturing Co., manufacturers of silk, mohair and cotton braids on 130 braiders, have recently purchased 20 new braiders which they are installing on the first floor of their building and expect to have in operation within a short time. They are quite busy.

*New Jersey, Montville. The Catterall Printing Co., reported incorporated several weeks ago with capital stock of $50,000 is expected to begin operations about the middle of December. James Hillery is president, Fred. C. Whitehead, treasurer and Thomas Catterall, agent and buyer.

*New Jersey, Paterson. The Arkwright Mfg. Co., a new concern which began dyeing and printing of cotton piece goods in June, is doing an excellent business. The company has capital stock of $25,000. The plant is located at 178 Water St.

New Jersey, Paterson. The Mason Co. has been incorporated to manufacture cotton machine wipers, automobile wipers, wash cloths and bar cloths. D. Mason is president, Arnold Brunner, treasurer, and Sigfreid Butz, secretary. The capital stock is $10,000. The company's office and factory will be in the Exchange Bldg., Ellison St. The product will be sold direct.

*New York, Binghamton. W. M. Sharp Co. have bought 20 looms and intend starting them as fast as they can be set up and put in condition. Towels and crashes are manufactured. W. M. Sharp is proprietor and buyer.

*New York, Cohoes. The Clute Bros. Co., a corporation previously reported as about to occupy the Walker & Harp Mfg. Co.'s plant, has a capital stock of $50,000, $30,000 paid in. It is proposed to manufacture cotton waste, cotton batts and similar products.

*New York. Lockport. The Lockport Textile Co. has been granted a charter with capital stock of $30,000. J. J. and J. Aldred and J. Clifford, all of this place, are the incorporators. This refers to the incorporation of the new business started by John and Joseph Aldred as reported in October. Thirty-six looms are operated on linen and union goods. Product is bleached and finished at the plant and sold direct.

New York, Schaghticoke. New equipment for changing the power plant of the Cable Flax Mills from water to electricity has been contracted for and will be installed in time for the mills to be running by electric power by January 1, 1909. Other repairs are being made around the plant.

FACTS AND GOSSIP.

Alabama, Demopolis. It is reported that the Besse Minge Mfg. Co. will be reorganized and J. W. Sanders of the Sanders Cotton Mill, Tuscaloosa, Ala., placed in charge.

Arkansas, Little Rock. The Cotton States Improvement Mfg. Co. has been incorporated with capital stock of $25,000, of which $5,000 has been subscribed. P. Freeman Hill, James Rooker, Frederick S. Williams and E. E. Newhouse are the incorporators. Some reports state that a cotton mill is contemplated, but this information is unreliable.

*Canada, Quebec, Sherbrooke. The property of the Moore Carpet Co., Ltd., was bought by the mortgagee for $12,000 above the mortgage. There is no intention of starting the plant again by the owner and machinery is for sale.

Connecticut, Montville. The Mercer Mfg. Co. has been sold to Charles D. White of the Uncasville Mfg. Co., who will continue it in operation.

Connecticut, Thompsonville. A local report states that the directors of the Upson & Martin Carpet Co are contemplating an enlargement of the plant. We are advised, however, that up to the present no enlargements or changes of any kind have been decided upon.

Georgia, Augusta. The contract has been let for the construction of a dam at Price's Island twenty miles above this place on the Savannah River. Construction work will be started in December. The work will require about one year to complete and will cost in the neighborhood of $3,500,000. Fifteen thousand h. p. will be generated, which will be transmitted to Augusta.

*Georgia, Eatonton. Reports that H. L. Gardner is interested in the organization of a cotton mill company are incorrect, as stated probable when this report first appeared. At present Mr. Gardner is trying to sell the Middle Georgia Cotton Mills property, of which he is receiver.

*Georgia, Summerville. Nothing definite can be stated in regard to the proposed $250,000 cotton manufacturing company being agitated to erect a cotton mill at this place. Tentative plans call for the organization of a 10,000 spindle cotton yarn mill.

Iowa, Dubuque. It has been learned that there is very good prospect of a woolen mill being located at this place. Names of interested parties have not been given out.

Kentucky, Louisville. The Hope Worsted Mills Co. has been reorganized with capital stock of $125,000 and will be known in the future as the Hope Worsted Yarn Co. For several weeks the plant has been shut down, but manufacturing will be resumed Monday morning, Nov. 30.

Maine, Portland. The United Worsted Co. has been incorporated with capital stock of $10,000 to manufacture wool, silk, cotton, worsted and other yarns. Weld A. Rollins, attorney, 84 State St., Boston, secured the charter.

Maine, Saco. The York Mfg. Co. may close a deal shortly for the property on Factory Island owned by the Saco Water Power Co., which will be used as a site for a new weaving mill.

Maine, Sanford. The Goodall Worsted Co. has been obliged to put on a night shift of help and run 24 hours as a result of new orders being received. The Sanford Mills are being run on full time with full complement of help.

Maine, Sangerville. It is announced that the Carleton Mills Co. will run on schedule of four o'clock in the morning to ten o'clock at night until next February. Dress goods and suitings are manufactured on 4 sets and 21 broad looms.

Maine, Skowhegan. The Marston Worsted Mills, which are being operated by N. B. K. Brooks, receiver, are very busy and will put a night shift in the weaving department.

Maryland, Dickeyville. The Ashland Mfg. Co., formerly the property of M. A. Dickey & Sons, is advertising a quantity of machinery to be sold at auction on December 10.

*Maryland, Warren. The Warren Mfg. Co. has contracted to lease its plant, which has been purchased by the Water Board of Baltimore as previously reported, for two years. The price paid for the lease is reported to be $50,000 a year. The directors have not yet considered whether a new plant will be erected.

*Massachusetts, Boston. F. V. Prior is manager of the Merchants' Wool Scouring Co., reported incorporated last week with capital stock of $21,000. They take over the Boston Wool Scouring Co.'s plant.

Massachusetts, Boston. The General Color & Chemical Co. has been incorporated with capital

stock of $30,000 for the purpose of manufacturing and dealing in chemicals, dyestuffs, etc. Joseph Degnan and Wm. T. Maher are the incorporators. The company's address is Boston.

*Massachusetts, Clinton. At the first meeting of the creditors of W. F. Brodmerkle, proprietor of the Litchfield Worsted Mills, Jonathan Smith of Clinton was confirmed as trustee and it was decided to hold the next meeting on Jan. 21, 1909.

Massachusetts, Clinton. All departments of the Bigelow Carpet Co. have been started up on what is practically full time schedule.

*Massachusetts, Dalton. The report that James Graham and Robert Johnston had leased the Dalton Woolen Co.'s mill is incorrect. These men visited the property and called on Mr. Crane, the owner, in the interest of a Scotch manufacturer who is interested in securing a mill for a branch plant in this country. We are advised that nothing will be done toward leasing the property under any conditions until the spring of 1909, and the project has about an even chance of being dropped altogether.

Massachusetts, Collinsville. The Beaver Brook Mills of the American Woolen Co. are rapidly recovering from the effects of the depression and labor troubles. Conditions at the mill have improved and for several weeks the plant has been running on full time schedule and nearly full handed.

Massachusetts, Fall River. Daniel J. Sullivan is reported to be securing subscriptions for a new cotton blanket mill. No details of the size of the plant proposed are obtainable. R. F. Haffenreffer, Jr., is interested.

*Massachusetts, Fisherville. Additional looms have been started in the Fisher Mfg. Co.'s plant. In September the plant was shut down for two weeks, owing to lack of orders. It will be remembered that the directors of this company contemplate the erection of a new weave shed when business will warrant the enlargement.

Massachusetts, Fitchburg. The Shirreffs Worsted Co. has plenty of orders to keep 250 hands running on full time until next February. They are having difficulty in securing stock. 2/20s to 2/60s worsted yarns are bought. J. Shirreffs is treasurer and buyer. The Houghton Web Co. is running night and day shifts and as reported some time ago is planning the erection of an addition.

Massachusetts, Franklin. The Norfolk Woolen Co., which has been working short time for several months, has started on full time on orders. About 60 hands are at work and a section of the carding department which has been closed for over a year has been started up. Wool shoddies and carbonized stocks are manufactured on 33 cards and 15 pickers.

Massachusetts, Lowell. Part of the old power plant of the Hamilton Mfg. Co. has been removed and the new power plant completed some months ago is being used exclusively. If the new plant carries the load successfully through the winter the old plant will be completely removed.

Massachusetts, Lowell. Maj. Charles A. Stott of the Belvidere Woolen Mfg. Co. denies the report that the mill and other property of this concern on Howe St. is for sale. The mill has been shut down for some time, but Maj. Stott states that plans are being considered for the resumption of business. Some reports went so far as to say that the property would be sold at auction at an early date.

*Massachusetts, Medway. The report which has been circulated to the effect that the Medway Mfg. Co. is in full operation, is incorrect. No improvement has been noted in their line of business. No larger business is being done than for the past two years.

Massachusetts, North Billerica. Not for many months has business at the Talbot Mills been as good as at the present time. Every department is running in full and some departments are running overtime.

Massachusetts, North Grafton. A corporation known as the William Paton Co. has been granted a charter with capital stock of $50,000. James Paton has been elected president and Robert Officer, treasurer, superintendent and buyer. This company has been formed to take over the plant of Wm. Paton, Ltd., of Johnstone, Scotland, located at this place. Business will be carried on as a branch of the main plant in Scotland. We are advised that so far as the policy of the business is concerned there will be no change. The new company will act as agents for the product of Wm. Paton, Ltd., Johnstone, Scotland, and the old concern still has a large interest in the new company.

Massachusetts, Palmer. After a long period of curtailment the Palmer Carpet Mill has resumed manufacturing in full. It is stated that there is no considerable demand for the product of the mill, but the reserve stock has been depleted and conditions warrant operating full time.

*Massachusetts, Spencer. Joseph L. Rome has purchased all the property formerly owned by the Allendale Woolen Co. and offers it for sale. This includes mill buildings, water privileges, and other property.

Massachusetts, Springfield. The Excelsior Woolen Co. has been incorporated with capital stock of $10,000. The incorporators are Edgar B. Hubbel, Jr., president; James Hull, treasurer, and Edgar J. Stoneman secretary. The new corporation takes over the business of the Excelsior Woolen Co. of this city, operating a plant on 3 sets on woolen and merino knitting and weaving yarns.

Massachusetts, Ware. Additional machinery is being placed in operation in the Ware Woolen Mills, Charles A. Stevens & Co., proprietors. Dress goods and flannels are made on 16 sets and 110 broad looms.

*Massachusetts, Williamstown. The Boston Finishing Works property, which was sold at public auction in April, 1907, and has been idle since, has been sold to Geo. A. McDonald of North Adams for a consideration reported to be $25,000. Mr. McDonald is treasurer of the North Adams Trust Co. and is supposed to have made the purchase for other parties.

Michigan, Clinton. A tube in one of the boilers recently installed in the Clinton Woolen Mfg. Co.'s plant burst, with no serious damage. E. Ogden, the engineer, was slightly burned.

Minnesota, Saint Cloud. The St. Cloud Knitting Mills will be incorporated shortly with capital stock of $15,000.

*Mississippi, Tupelo. The increase in the capital stock of the Tupelo Cotton Mills previously reported will be used for working capital only and we are advised that no increase in the plant is contemplated at this time.

Missouri, Kansas City. There is greater activity at the Kansas City Cotton Mills than for a year, as a result of the increasing demand for their line of duck.

New Hampshire, North Boscawen. A project is under consideration for building a dam in the Merrimack River near this place. It is estimated that a 10 ft. fall can be secured. I. W. Jones of Milton is in charge. If the dam is constructed it is probable that a woolen mill will be located here.

New Jersey, Paterson. The Morton Mills Co. has been incorporated with capital stock of $150,000 for the purpose of manufacturing woolens, cottons, linens and other textile fabrics. The incorporators are Wm. Doherty, Harry C. Whritner and Swinburne Hale.

*New Jersey, Paterson. The Tynan Throwing Co., reported incorporated with capital stock of $50,000, succeeds to the business of Jos. E. Tynan, deceased, who operated a plant of 6,000 spindles. The company is engaged in commission throwing and has capital stock of $50,000, all paid in. Leonard J. Tynan is president and treasurer, Henry J. Tynan is manager and buyer and J. W. Post is superintendent.

New Jersey, West Hoboken. A new scale of wages has been established by Schwarzenbach, Huber & Co., which is an increase of 10 per cent. over the scale previously in force. The scale has gone into effect in all of the plants operated by the company and affects about 1,000 hands.

*New Jersey, West New York. The parties who leased the Alliance Silk Mill of Reiling & Schoen are at present operating under the name of the Novelty Web Co. and are running a small plant in Brooklyn. It is understood that they will move their plant to West New York and greatly enlarge. Ernest Strauss, B. Gunzburg, Emil Werkell and Wm. B. Erskine are interested in the company.

*New Jersey, Wharton. The taking over of one of the Ross Mills by the Singleton Mfg. Co., Dover, to be operated by them as a branch plant, does not mean that the E. J. Ross Mfg. Co. is reducing production in any way. E. J. Ross Mfg. Co. occupies two buildings at this place and one at Paterson, N. J. They manufacture tie silks, dress silks and veilings. Edwin J. Ross is president and buyer and Fred W. Fuhrman is treasurer.

*New York, North Tonawanda. The statement that a cotton mill would be located here grew out of the efforts of James Sweeney, Jr., a real estate agent, to induce cotton manufacturers to consider his property as a site for a new mill and from the fact that Mr. Sweeney is now negotiating with the president of a mill to come to this place and look the conditions over. Mr. Sweeney and his associates have a plan to erect factories and lease them to concerns on long leases. The prime object for the locating of cotton mills at this place is the creating of a market for the electric power developed at Niagara Falls.

*New York, Oswego. The State of New York may not take the plant of the Ontario Knitting Co. for barge canal purposes.

*New York, Seneca Falls. The Seneca Falls Woolen Mills machinery will be sold Jan. 2.

New York, West Eaton. The sale of real estate of the Frazer Dale Woolen Co. has been confirmed. The dividend declared will be 10 per cent. less than originally offered by the bankrupt company.

North Carolina, Charlotte. Henry L. Delacountre and Jean Dheygue of Roubain, France, have been in this city and are reported to be looking for a site for a cotton mill.

North Carolina, Sanford. A cotton goods bleachery is proposed for this place. Robert L. Steele of Statesville, N. C., is interested.

Pennsylvania, Philadelphia. J. & J. Dobson, manufacturers of Brussels and Wilton carpets, worsted and mohair yarns, are putting their mills in full operation as a result of improved business.

Pennsylvania, Philadelphia. Messrs. Stanley & Smith, proprietors of the Stanley Manufacturing Co., Adams and Church Sts., Frankford, have dissolved partnership, Mr. Charles Stanley now being the sole proprietor. The plant which is run on twisting, winding, coning, spooling, etc., of all kinds of yarn, will in the future be conducted under the personal supervision of Mr. Stanley, Mr. Smith being no longer connected with the firm in any way.

Pennsylvania, Philadelphia. The Maynard Mills Co., manufacturers of fine worsted fabrics on an equipment of 60 broad looms, report that on Nov. 4 the name of the corporation was changed to the Delaine Mills, Inc. The company is under the same management and control as heretofore.

*Pennsylvania, Philadelphia. The failure of the Philadelphia Thread Co. and D. H. McKinley, individually, reported last week, in no way effects the Philadelphia Thread Mfg. Co., which is a stock company of which D. H. McKinley is manager. Owing to the conditions brought about by the suicide of the late H. K. Wampole, D. H. McKinley was obliged to go into bankruptcy in order to clear up his affairs.

Rhode Island, Hope Valley. The Locustville Woolen Co., which purchased the plant of Youngman & Hammond in April, is operating this plant on full time, but not to full capacity as yet. Business is gradually improving with this company.

Rhode Island, Manville. It has been reported that the Contrexville Mfg. Co. would make a line

of silk goods in place of the plush fabrics now turned out. It is stated that there is no truth in this report.

*Pennsylvania, Philadelphia. The loss caused by the recent fire at John Doak's Sons dye works was not over $5,000, and damage will be repaired at once.

Pennsylvania, Philadelphia. The Keystone Fast Black Dye Works, dyers of colors and fast blacks on hosiery, are so busy that the proprietor, John Boston, is arranging for the erection of another story to plant located at 1929 to 1939 E. Westmoreland St., 40 by 60 ft., of brick, in which, when finished, he will install more machinery to enable him to enlarge its production.

Pennsylvania, Philadelphia. In a new brick building which has been erected in the rear of 2720 Susquehanna Ave., the Philadelphia Embroidery Co. have installed 8 embroidery machines which they are running by electricity on silk, cotton and mercerized embroideries, which they sell direct. They are buying 40 and 60 mercerized, cotton and silk yarns on tubes.

Pennsylvania, Philadelphia. The Wissahickon Waste Co., Cresson and Vassar Sts., Manayunk, which has been shut down, will not be started up again, the buildings and equipment being for sale. They manufactured cotton and woolen waste and shoddies.

Pennsylvania, Philadelphia. The Integrity Dyeing Co., 406 to 414 Memphis St., of which Brownhill & Kramer are the proprietors, in which they dye fast black and colors and bleach hosiery, will double its capacity, putting in new machinery to enable them to dye and bleach 8,000 pounds per day.

Pennsylvania, Philadelphia. It is reported that the Colonial Manufacturing Co., recently incorporated with a capital of $10,000, will manufacture narrow fabrics. The president of the company is Eugene P. Bolderston, who is also connected with the Northern National Bank, of this city, as president. The company is not yet in a position to give information as to its equipment or its location.

Pennsylvania, Philadelphia. Conrad Scheetz & Co. have recently started up a plant at the corner of 2d and Diamond Sts., with 2 looms and 20 sewing machines on which they are manufacturing edgings for the lace curtain trade, and selling direct.

*Rhode Island, Pawtucket. The new boiler being installed in the Home Bleach & Dye Works is of 150 h. p. capacity. This is the only improvement to be made at this time.

*Rhode Island, Pawtucket. An addition to the Smith Webbing Co.'s plant is under way, also a bridge connecting the buildings of that concern.

*Rhode Island, Pawtucket. Construction work has been started on the 4-story brick addition, 30 by 68 ft., which was reported some time ago would be erected for Blodgett & Orswell Co. The estimated cost of this improvement is $6,700.

Rhode Island, Pawtucket. Since taking charge of the American Hair Cloth Co.'s plant, Edward T. Dolan has made many necessary improvements. Two water wheels of 180 h. p. each have been installed, the engine room, boiler house and finishing department has been thoroughly overhauled and new machinery for beaming and slashing has been installed. Improvements in other departments are going forward.

Rhode Island, Pawtucket. At a meeting of the stockholders it was decided to dissolve the R. I. Vienna Braid & Tape Co. and Benj. Wilson of East Providence, president of the concern, has been appointed receiver and authorized to wind up the business.

Rhode Island, Providence. It is reported that the Rhea Yarn Co., a concern being organized by W. S. Hodgdon for the manufacture of special yarns of ramie in a plant on Willard Ave., will not complete the organization or start manufacturing.

Rhode Island, Providence. In the future the Hodgdon Worsted Co. will be known as the Norway Worsted Co., the change dating from Nov. 1. The plant is running full time.

Rhode Island, Woonsocket. An addition, 100 by 40 ft., one story high, of wood construction, will be built by the Rosemount Dyeing Co. and will be equipped for yarn and piece dyeing. This company has capital stock of $20,000. John G. Masson is pres., supt. and buyer.

*Wisconsin, Milwaukee. The new building reported under construction for John Rauschenberger Co. at Hadley and 30th Sts. is to take the place of the old building at 871 Teutonia Ave., which will be vacated when the new building is ready for occupancy. The new building is 2 stories high, 70 by 160 ft. This company manufactures rope, twine and cordage.

FAILURES AND SUSPENSIONS.

Alabama, Anniston. On application of creditors, the Planters' Mfg. Co. has been placed in the hands of W. H. Bonds as receiver. The plant is at Oxford, Ala.

*Massachusetts, Clinton. A voluntary petition in bankruptcy has been filed by W. J. Brodmerkle, proprietor of the Litchfield Worsted Mills, and the plant has been shut down. The schedules filed show liabilities amounting to $60,000 and assets of $35,000. The secured creditors are the Clinton Savings Bank, $18,000, and Dr. C. L. French, $1,000. We reported some time ago that an attachment had been placed on the property for $50,000. Since that time a keeper has been in charge.

*Virginia, Roanoke. On Nov. 2 the Roanoke Knitting Mills was adjudicated bankrupt. The first meeting of the creditors will be held Nov. 25. In September it was reported that suit had been instituted to have the company placed in the hands of a receiver and the business wound up.

New Mill Construction During 1908.

EXPLANATION OF ABBREVIATIONS: 12/09=Expect to start December, 1909, etc.; S=Steam; W=Water Power; E=Electricity; D=Dye House.

NEW COTTON MILLS.

ALABAMA.

Gaylesville. Gaylesville Cotton Mills; $100,000; J. Robert Henderson, president; A. B. Russell, vice president and treasurer. (Under construction.) ..... 5,000 ..

GEORGIA.

Atlanta. Southeastern Mills; $100,000; Cotton Waste ....

Calhoun. Echota Cotton Mills; $100,000; T. W. Harbin, president; O. N. Starr, treasurer; Print Cloths. 10,000 240

MAINE.

Alfred. Alfred Embroidery Co.; $100,000; B. C. Jordan, president, S. M. Came, treasurer; W. A. Illigen, superintendent; Laces and Embroideries. (E) ....

MASSACHUSETTS.

Brockton. Hutton & Lapworth; Elastic Web Goods, Suspender and Garter Webbings. 8

Campello. Smith, Arthur W. & Co.; Webbing, Jacquard and Plain. ....

Everett. Shultz-Goodwin Co. (office 31 Lincoln St., Boston); Chas. Goodwin, president; W. A. Shultz, treasurer, agent and buyer; Wm. M. Rodger, superintendent; new building erected; consolidated plants at Lowell and 16 Columbia St., Boston, at new mill; 50 braiders; sell direct; buy yarns 12s to 80s. 20

Fall River. Davis Mills; capital stock increased to $1,250,000; new mill under way, 435 by 157 feet, 3 stories; capacity of 65,000 spindles. ....

Holyoke. Lyman Mills, The; new mill, 108 by 368 feet, 6 stories, under construction. .. .. ..

Hudson. Hudson Fibre Co.; $8,000; James C. Boland, president; James C. Boland, Jr., superintendent; Absorbent Cotton, Batting; 8 sets; steam and water; sell direct; J. C. Boland, buyer. ....

Wales. Textile Specialties Co. (office 141 Milk St., Boston); P. Kenyon (N. Y.), president; J. B. Perkins (Boston), treasurer; H. E. Shaw, manager; Gloves and Fine Woolen Specialty Fabrics. (Operate plant formerly run as Berkley Woolen Mills.) ....

Wilkinsonville. Army & Navy Cotton Duck Co.; $200,000; Sam Hird, manager; Military Khaki, Army and Navy Duck; John H. Meyer, 75 Worth St., N. Y., interested. (Operate the old Sutton Mills.) 80

NEW HAMPSHIRE.

Fradd & Wood; Mattress Felts or Cotton Batts; sell direct; J. R. Fradd, buyer. (E) .. ..

NEW JERSEY.

Bayonne. Leolastic; $100,000; George C. Moore, president; Albert Herbert, treasurer; Elastics, Silk, Cotton and Mercerized; sell direct. (E) 100

Camden. Lee Thread Co., The; J. C. Lee, proprietor; 416 Line St.; Frank McAlister, superintendent; Cotton and Woolen Waste for Wiping and Packing Purposes and Willowed Cotton; 1 shredder; 1 cutter; 1 willow; 1 cleaner; electricity; sell direct; J. C. Lee, buyer. ....

Camden. Standard Combed Thread Co.; 2d above Erie St.; $50,000; Thomas Lee, president; W. B. Caminade, secretary and treasurer; Carbonizers and Manufacturers of Wool Stock and Wool Packing Threads; 8 combs; 7 cards; 4 garnetts; 7 shoddy pickers; 4 carbonizers; sell direct; Thomas Lee, buyer. (S) ....

Hoboken. Clinton Mills Co.; $2,000; H. A. Ayvad, president; Geo. Appel, treasurer; Yarns, single 24 warp, 22 filling; Cloth; sell direct; H. A. Ayvad, buyer. (Dept. of the Ayvad Mfg. Co., mfrs. water wings.) 3,500 24

NEW YORK.

Cohoes. Clute Bros. Co., $50,000; Cotton Waste, Cotton Batts, etc. (In old Walker & Harp Mfg. Co.'s plant.) ....

NORTH CAROLINA.

Belmont. Majestic Mills; A. C. Lineberger, president; S. C. Stowe, treasurer; C. Enos Bean, superintendent; Cotton Yarns, 60/2, 80/2, Skeins, Warps and Cones; 5,824 twisting spindles; sell direct; A. C. Lineberger, berger, buyer. (E) .....10,944 ..

Brevard. Transylvania Cotton Mills; $100,000; J. W. McMinn, president; J. A. Gallaway, vice-president; C. M. Cooke, secretary and treasurer; Two Ply Cotton Yarns, 40s. ..... 4,000 ..

Charlotte. Jewel Cotton Mills; W. W. Hagood, president; W. A. Watson, vice president; T. J. Lillard, secretary and treasurer; Fine Combed Yarns. ....

Charlotte. Sargent Cotton Mfg. Co.; $50,000; Yarns, 60s to 80s. (E) ..... 3,000 ..

Charlotte. Savona Mfg. Co.; $100,000; Fancy Towels, Bureau Scarfs, etc.; Alexander & Garsed, Charlotte, and A. D. Smith & Co., N. Y., s. agts.; buy cotton yarn, 5s to 30s. .. 100

Davidson. Delburg Cotton Mill Co.; $50,000; J. P. Munroe, president and buyer; F. J. Knox, treasurer; H. H. Harwell, superintendent; Hosiery Yarns, single 8s to 26s. (E) ..... 4,000 ..

Kinston. Caswell Cotton Mills, Inc.; $200,000; J. E. Hood, president; F. C. Dunn, treasurer; J. W. Black, vice-president and manager; Soft Hosiery Yarns, 20s to 24s; sell direct and through agents. (S) ..... 5,400 ..

Lincolnton. Eureka Mfg. Co.; $40,000; J. L. Lineberger, president; L. J. Dellinger, treasurer and buyer; Mule Spun Yarn, 2 to 10, single and ply. (S) ..... 1,020 ..

Newton. Ridgeview Cotton Mills; L. H. Phillips, president; H. F. Smith, agent and general manager; 2 ply yarns, 30 to 40. (E) 2,500 ..

Salisbury. Grace Mills, The; F. L. Robbins, treasurer and agent; W. M. Crump, superintendent; Fine Mercerized Damask Table Cloths; Burch, Bailey & Co., s. agts. (S) (In plant formerly run as Littman Rope Mill.) 36

Shelby. Ella Mfg. Co.; $125,000; S. H. Hamrick, president; J. R. Dover, treasurer; Fine Sheetings. (E) 5,000 126

Stony Point. Stony Point Mfg. Co.; $80,000; M. K. Steele (Turnersburg, N. C.), president; A. L. Watt (Taylorsville), treasurer; Wm. Steele, superintendent; Cotton Yarns, 18 to 22 (or about so); gas. ..... 4,000 ..

Taylorsville. Taylorsville Cotton Mill Co.; $125,000; W. B. Matheson, president; A. C. Payne, treasurer; Henry M. Wilson, general manager and buyer; 26s to 30s Hosiery Yarns on Cones. (S) (Start March, '09.) 5,200 ..

Weldon. Shaw Cotton Mills, Inc.; $100,000; W. T. Shaw, president; W. A. Pierce,

treasurer; O. L. Smith, superintendent; Cotton Warps, 20s to 30s. ..... 5,129 ..
Wendell. Whitley Mfg. Co.; Hosiery Yarns, 14s. ..... 2,500 ..

PENNSYLVANIA.

Philadelphia. Boylston Mills Co.; Manufacture and Bleach Towels, Cotton Goods, etc., operating mill formerly run by Jos. B. Ward & Bro., Hancock St., below Lehigh Ave. ....
Philadelphia. Colonial Mfg. Co.; $10,000; Eugene P. Bolderston (North National Bank), president; Narrow Fabrics. ....
Philadelphia. Johnson Taylor Co., Gillingham St., Frankford; Hair cloth. ....
Philadelphia. Philadelphia Thread Mfg. Co., Adams and Emerald Sts.; $50,000; D. H. McKinley, president and general manager; John R. Shriner, treasurer; Glazed Threads and Sewing Cottons; sell direct; D. H. McKinley, buyer; buys all numbers cotton yarn. (F) (S) ....
Philadelphia. Philadelphia Winding Co., Inc., Jasper and Orleans Sts.; John Fowler, manager; Coners, Winders and Reelers of all Kinds of Yarns; 18 spoolers; 8 coning machines; 6 quillers; N. Y. office, 480 Broome St. (S) ....
Philadelphia. Scheetz, Conrad & Co., 2d and Diamond Sts.; Edgings for Lace Curtain Trade; 20 sewing machines; sell direct. 2
Philadelphia. Upham Bros. & Co., Inc., Hancock and Oxford Sts.; $35,000; F. H. Upham, president; L. E. Upham, vice president and treasurer; M. L. Upham, secretary; Sewing Cotton and Mercerized and Glazed Yarns on Cones, Spools and Tubes; also Coners and Reelers of all Kinds of Yarns; sell direct; N. Y. office 308 Mercer St.; firm, buyers; buy 50/3, 40/3, 36/3, 30/3, 24/3, 50/2, 40/2, 36/2, 24/2, 20/2 carded and combed yarn. (E) ....
Pittsburg. Nichol, Jones & Co.; Walter D. Jones, Jr., president and buyer; James M. Nichol, treasurer. ....

RHODE ISLAND.

Pawtucket. Lowry Fabric Mfg. Co.; $500,000; Nathan W. Littlefield, president; Chas. A. Stearns, treasurer; Fred James, superintendent; Rugs, Carpets, Matting, etc.; (use 2,500 lbs. daily 4/4s cotton yarns.) (D) (E) .. 10

SOUTH CAROLINA.

Charleston. Carolina Waste Mills; George Lunz; Wiping Waste, Mattress Felts, Carpet and Stair Pads, Paper Stock, Bagging Ties. ....
Rock Hill. Wymojo Yarn Mills; $150,000; W. W. Moore, president and treasurer; Lace Curtain Yarns, 20 to 30/2; W. N. Moore, buyer. (E) ..... 5,500 ..
Simpsonville. Simpsonville Cotton Mills; $150,000; E. F. Woodside, president and treasurer, Sheetings; Haines & Bishop, N. Y., s. agts.; E. F. Woodside, buyer. (S) .. 8,000 200
Woodruff. W. S. Gray Cotton Mills; 30 Yarns, ply warps, skeins and tubes. .....10,000 ..

TEXAS.

Galveston. Galveston Waste Mills; $10,000; J. H. Langhehn, president; Fred Hartel, treasurer; W. G. Jones, superintendent and buyer; sell direct. (E) ....

NEW WOOLEN MILLS.

	No. Sets & Width Cds	Looms

ARKANSAS.

Nashville. Arkansas Woolen Mills, Inc.; James and Martin McMahon; Flannels, Blankets, Jeans and Yarns; started up old plant. 1 11

CANADA.

Ontario. Georgetown. Sykes, Alfred, Co.; A. Sykes, president and treasurer; Geo. Haywood, supt.; Carpet Yarns, Knitting Yarns, Hosiery, Half Hose, Lumbermen's Stockings, Glove Linings; 350 spindles; 10 knitting and 3 sewing machines; gas; A. Sykes, buyer. ..... 1 ..

MASSACHUSETTS.

Lawrence. Armitage, J. D. & Co.; Fancy Worsted Dress Goods; buy all numbers worsted yarns. (E) 24
Lowell. Deavitt Mfg. Co., The, 287 Thorndike St.; $50,000; J. J. Deavitt, president and manager; A. A. Sprague, treasurer; Worsteds; buy yarn. 12

MICHIGAN.

Pickford. Pickford Woolen Mills Co.; W. D. Clarke, superintendent; E. S. Taylor, buyer; All Kinds Lumbermen's Goods, Pants and Mackinaws, Shirts and Socks. ..... 1 ..

NEW JERSEY.

Hightstown. Geyer, Frank; Wool and Cotton Rugs; Special Weave; sell direct. (S) 35
Paterson. Mason Co., The; Ellison St.; $10,000; D. Mason, president; Arnold Brunner, treasurer; Sigfried Butz, secretary; cotton machine wipers, auto wipers, wash cloths and bar cloths; sell direct. ....

NEW YORK.

Dolgeville. Heron Felt Novelty Co.; Felts for Washers, Piano Casters, Furniture Casters, Polishing Wheels, etc. ....
Watervliet. Roy Woolen Co., The; Charles Roy, president; D. W. Tillinghast, treasurer; Dress Goods and Carriage Cloths. (D) (S & W) 6 30

OREGON.

Gordon Falls. Gordon Falls Electric & Mfg. Co.; $225,000; Woolen Goods and Blankets. (Bought equipment Pendleton Woolen Mill.) 3 25

PENNSYLVANIA.

East Brady. Valley Yarn Woolen Co.; $10,000; R. W. Steele, president and buyer; R. T. Neal, treasurer; 7 single to 2/26 double yarn; 300 mule spindles; gas. ..... 1 ..
Philadelphia. Anchor Combing Works; Pearce & England, proprietors, Hancock and Huntingdon Sts.; Sorting, Scouring and Combing Wool; 2 combs; 3 cards; 1 picker and 1 willow. ....
Philadelphia. Forman Worsted Co. (formerly A. Costine & Co.), Howard St., below Lehigh Ave.; May C; Sq. 62; Men's Wear and Dress Goods; sell direct; buys 2/16s to 2/50s worsted. (S) 24
Philadelphia. Kensington Manufacturing Co., Howard St.; $10,000; Geo. B. Smitheman, president; Simon Weil, treasurer; Wastemakers' Supplies; 2 ravelers; 1 picker; 1 willow; sell direct; office 516-18 South Delaware Ave. (S & E) ....
Philadelphia. Lawson Woolen Mills, Adams Ave. and Church St., Frankford; James Grindrod, superintendent; Men's Wear Worsteds; sell direct; buy 2/32 to 2/40s worsted yarns. 10
Philadelphia. Lefferts, George W. & Co., 23d and Hamilton Sts.; Walter Marshall, superintendent; Worsted Yarns, 32s, 2, 3 and 4 ply; Bradford system; 1,152 spindles. ....
Philadelphia. Philadelphia Waste Co.; Robert Dornan, proprietor; Columbia Ave. above Blair St.; Wool Waste. ....
Philadelphia. Swoyer, Jos. D. & Co., Inc., Howard and Berks Sts.; $50,000; Jos. D. Swoyer, president; Chas. F. Tracey, treasurer; Christopher Berry, superintendent; Woolen and Merino Yarns for Knitting and Weaving; 2,500 spindles; sell direct; Jos. D. Swoyer, buyer; office 506 Mariner and Merchant Bldg. (S) .... 4 ..
Philadelphia. Wellington Worsted Mills Co.; Cope Mills, Wawne Junction; $25,000; J. Tiers Reardon, president; James B. Cooper, treasurer and secretary; Ernest S. Creamer, superintendent; Dress Goods; 40 narrow and 40 broad looms; sell direct; E. S. Creamer, buyer. (S) ....

RHODE ISLAND.

Glocester. Dexter Elliott; Wool Shoddies and Extracted Stocks; custom carding; 5 double sets cards; 1 single; 1 3-cylinder garnett. (P. O. address Thompson, Conn.) ....
Providence. Colored Worsted Mill; $50,000; James Lister, president and treasurer; B. F. Lister,

agent and superintendent; A. H. Lister, buyer wool; Yarns, 30 to 60; English system; 1,064 worsted spindles; 2 combs; 3 worsted cards; sell direct. (S & E) .....
Providence. Elston Worsted Co.; $50,000; Yarns and Worsteds. 50

TEXAS.

San Angelo. Cook & Bennett; Carpets and Rugs, Hand Work; sell direct; N. H. Cook, agent and buyer. 2

NEW KNITTING MILLS.

No. Klg. Machines

COLORADO.

Denver. Colorado Woolen & Knitting Co.; $50,000; Peter H. Hansen, president, superintendent and buyer; Francis A. Hauber, treasurer; Men's, Women's and Children's Hosiery, Sweaters, etc.; sell direct; 1 sewing machine. (S) 20

GEORGIA.

Brunswick. Brunswick Knitting & Mfg. Co.; $25,000; H. J. Moody, president and treasurer; Men's Half Hose; 6 ribbers; 8 loopers; E. W. Parks, N. Y., s. agt.; H. J. Moody, buyer; gasoline. (D) ... 36
Rockmart. Southern Hosiery Mills. .....

ILLINOIS.

Chicago. Newberger, S. E., 259 W. 12th St.; All Kinds Sweater Coats for Men, Women, Boys and Children; 3 sewing machines; sell direct. (S) 16
Decatur. Hinman Knitting Co.; $20,000; R. P. Hinman, president and buyer; H. C. Hoagland, treasurer; John Dakin, superintendent; Full Fashioned and Seamless Hose; sell direct. (E) (D) .....

IOWA.

Des Moines. Guaranty Hosiery Mills; $25,000; C. B. Fletcher, president; R. B. Dennis, treasurer and buyer; T. C. Blue, secretary; Hosiery; 1 sewing machine; sell direct; buy 10 to 60 yarns. (S) (D) 56

MAINE.

Topsham. Max-Mar-San Knitting Co.; $15,000; C. E. Lancaster, president; H. Q. Mariner, treasurer; C. B. Maxfield, superintendent and buyer; Men's Worsted and Mercerized Cotton Hosiery; sell direct; 5 ribbers. (S) (D & F) 20
Waldoboro. Suffolk Hosiery Mills; $100,000; Henry Suck, president; Andrew J. Kelly (170 Summer St.), treasurer; Men's, Women's and Children's Hosiery; 21 ribbers; 10 loopers; dye and finish; sell direct. 25

MASSACHUSETTS.

Boston. Boston Hosiery Co., 294 Harrison Ave.; $25,000; John G. Pierce, president and superintendent; Richard Freedman, treasurer; Frederick J. White, secretary; Infants' High Grade and Cashmere Ribbed Hosiery; 9 ribbers; 2 loopers; electric; sell direct; J. G. Pierce and R. Freedman, buyer. (Expect to double equipment soon.) 6
Great Barrington. Reliable Knitting Co.; $55,000; Parley A. Russell, president; Walter J. Roberts, general manager; Seamless Half Hose and Children's and Infants' Hosiery; 4 ribbers; dye (garment) and finish; Gutman & Williams Co., N. Y., s. agts.; W. J. Roberts, buyer; buy 12/1, 24/1, 34/1, 40/1, 60/1, 102 combed Egyptian. (E) 52
Ipswich. Brown Stocking Co.; $500,000; Daniel Safford, president; Harry B. Brown, treasurer; Men's and Ladies' Hose; 30 sewing machines; steam; dye; Wm. Iselin & Co., N. Y., s. agts.; H. B. Brown, buyer. 400
Lowell. Tremont & Suffolk Mills; added machinery for knitting Cotton Underwear. 12
South Hingham. Hingham Knitting Co.; $12,000; Geo. Price, president; William Coppin, treasurer; Men's Half Hose and Ladies' Hosiery; special lines; 3 loopers; 2 ribbers; 1 welter; dye; sell direct. (E) 10
Worcester. Neilsen, N. C., 2 Dupont St.; Sweaters and Stockings and Ladies' Full Fashioned Waists; 1 sewing machine; sell direct; buy worsted Oxford, 2/15, 3/15. 4

MICHIGAN.

Williamston. Edwards, A. J.; Scarfs, Skirts and Fancy Knit Goods, 1 sewing machine; sell direct. (S) 4
Williamston. Knit Goods Mfg. Co.; B. I. Lockwood, president and treasurer; Men's, Ladies' and Children's Knit Sweaters, Jackets, Vests, Skirts, Shawls and Scarfs; Johnson, Van Wort Co., Lansing, s. agts.; gas. .....

NEW JERSEY.

Camden. Nelson Mfg. Co., The, 516-18-20 Point St.; Knit Goods, Bathing Suits, Coat Sweaters, Eiderdowns, Fleece Linings, Lawn Sacks and Wrappers, Cotton, Woolen and Worsted; electric; sell direct. .....
Cliffside. Cliffside Knitting Mill; Wm. Spaeth, proprietor; Stuttgarter Porous Knit Underwear. .....
Merchantville. Franklin Hosiery Co.; E. K. Graham, manager; Seamless Cotton Half Hose, Women's Seamless Hosiery and Children's and Infants' Hosiery; sell direct, 587 Drexel Bldg., Phila.; E. K. Graham, buyer. (Goods made under contract.) .....
Passaic. Passaic Knitting Works; Bauer & Hambor, proprietors; 11 Monroe St.; Men's, Boys' and Ladies' Jackets; 7 sewing machines; sell direct. (E) 8
Union Hill. Hudson Knitting Co., 410 Morgan St.; M. Hochenberg, superintendent; I. Ragosin, buyer; Sweaters, Golf Vests and Cardigans; 6 sewing machines; buy 2/18, 2/15, 3/14 worsted, 2/20 wool, 2/8, 2/10, 1/8 cotton yarns. (Gas.) 12

NEW YORK.

Amsterdam. Shaughnessy Knitting Mills; M. J. Shaughnessy, proprietor; Ladies' and Children's Mesh Underwear; 30 sewing machines; buy 16s to 20s cotton. (E) 8
Amsterdam. Tryon Knitting Mills; $20,000; John K. Stewart, president; James S. Stewart, treasurer; Men's and Boys' Fleeces and Balbriggans; sell direct. (D) .....
Brooklyn. Federal Knitting Mills Co., Wythe Ave. and Rutledge St.; Theo. S. Baron, president and manager; Men's Cotton, Woolen and Worsted Ribbed Underwear; 100 sewing machines. (Bl & F) (Gas.) 20
Brooklyn. Franklin Knitting Mills; Baron & Shafer, 14 Dunham St.; Sweater Coats, etc. .....
Fowlerville. Fowlerville Knitting Mill Co.; $10,000; John Torrey, president; Semour D. Ensign, treasurer; Novelties, Sweaters, Toques, Waists, Mittens, Ties, Dressing Sacks, etc.; 5 sewing machines; sell direct and agents. (S & D) 12
Fulton. Monarch Knitting Mills; $10,000; W. H. Spanswick, president; C. C. Wilcox, treasurer; Knit Wash Cloths; F. B. Wilbert, South Norwalk, Conn., selling agent; 22 sewing machines. (E) 10
Gloversville. George H. Holmes; Warp and Hosiery Knit Fabrics for Glove Linings; sell direct; buy 80/2 cotton and 1/40 worsted yarns. (E) 6
New York. Bell Knitting Co., The, 144 Greene St.; Fancy Knit Goods, Woolen, Worsted and Merino; sell direct. .....
New York. Gotham Knitting Works; Gutman Bros.; Sweater Coats, etc.; offices and salesrooms, 414 Broadway; buy Woolen and Worsted Yarns. .....
New York. Kopolsky, A., 54 E. 3d St.; Ladies' and Men's Sweaters, Stockings and Leggings; 1 sewing machine; sell direct; finish; use 2/15 and 3/15 wool and worsted yarns. 4
New York. Pettine, Maria, 206 Lafayette St.; Fancy Knit Goods, Sweaters, Golf and Athletic Hosiery, Cardigans and Golf Vests; sell direct; finish. 2
New York. Raps, H. R., 328 E. 6th St.; Sweaters and Fancy Knit Goods; sells direct; finish. 3
New York. Shapiro, M., 396 E. Houston St.; Fancy Knit Goods, Sweaters and Golf Vests; sell direct; finish. 3
Oswego. Glove Textile Co.; $2,000; F. C. Osterhout, president; O. S. Osterhout, treasurer; A. S. Jessup, superintendent; Mercerized Linings. (E) 4

Rochester. Ederly, Jacob; Sweater Coats and Fancy Knit Goods; sells direct; buys woolen and worsted yarns ..
Salem. Smith & Temple; Thomas Temple, superintendent; Linings for Gloves and Mittens; sell direct. (D) (W) 31
Utica. Illma Underwear Co.; $18,000; C. H. Garthside, president; C. O. Jones, treasurer; Fred C. Lewis, superintendent; Men's Fine Ribbed Shirts and Drawers and Union Suits; 20 sewing machines; buy 12s to 50s cottons, 1/30 to 1/60 worsteds. (E) 121

NORTH CAROLINA.

Burlington. Whitehead Hosiery Mills, Inc.; $12,500; J. W. Murray, president; R. H. Whitehead, treasurer and buyer; Men's Half Hose; 10 ribbers; 10 loopers; sell direct; gas 50
Cameron. Regal Hosiery Mills Co.; $25,000; R. W. Dunn, president; Chas. C. Jones, treasurer; F. A. Jones, superintendent; Men's Half Hose; 84 needle; 3 ribbers and 1 sewing machine; steam; sell via jobbers. 12
Carthage. Bismark Hosiery Mills; $5,000; J. C. Hewson, president; J. F. McArthur, treasurer; Seamless Hosiery; 4 loopers; 5 ribbers; 2 sewing machines. 20
Flat Rock. Trident Hosiery Mills, The; $15,000; A. L. Bassett, treasurer and superintendent; Seamless Half Hose; 42 gauge; 3 sewing machines; 15 ribbers; dye (garment) and finish; sell direct; A. L. Bassett, buyer; buy 12, 20 and 30 white mule spun. (S) 75
Hope Mills. West & Bullard; Men's Half Hose and Ladies' Hose; 2 loopers; 1 welter; sell in the gray; gasoline; use 16 yarn. (Mill at Cotton.) 10
Lexington. Rickard Knitting Co.; $10,000; Ladies' Hosiery and Half Hose. 25
Marion. Marion Knitting Mill, Inc.; $100,000; W. W. Neal, president; S. H. Yancey, secretary, treasurer and buyer; Half Hose. (D & F) (S) 25
Marion. Mount Ida Hosiery Mill; $15,000; H. H. Jordan, president; R. L. Greenlee, treasurer, agent and buyer; Hose and Half Hose. (D) (S) 50
Raleigh. Matthews Bros.; $5,000; J. A. Matthews, president and buyer; J. L. Matthews, treasurer and superintendent; Men's and Ladies' Seamless Hosiery; 2 sewing machines; sell direct. (E) 15

OHIO.

Cincinnati. Reliable Glove Co.; manufacture goods for Knit Wrist material; 5 sewing machines; sell direct. (E) 1
Cleveland. Blepp, August, 1186 E. 71st St., N. E.; Sweaters, Coats, etc.; sells direct. 4
Cleveland. Scharfield-Drake Hosiery Co., 6302 Kinsman St.; $10,000; Men's Hose; Later, Women's and Misses' Hosiery. ..
Dresden. Capitol Knitting Co.; H. W. Moler, president; Jno. W. Shaw, superintendent and buyer; Men's Hosiery; gas engine. (D) 10
Richwood. McDowell, A. F. Hosiery Co., The; A. F. McDowell, superintendent and buyer; Full Fashioned Seamless Hosiery; 1 sewing machine; sell direct; gasoline. (D) 6

PENNSYLVANIA.

Allentown. Makaform Undervest Co.; Ladies' Undervests; sell direct; office, 350 Broadway, N. Y.... ..
Allentown. Sterling Knitting Co.; $5,000; R. C. Pearson, president; Robt. D. Pearson, treasurer, superintendent and buyer; Women's, Misses' and Children's Underwear; 12 sewing machines. 5
Ariel. Ariel Knitting Mill Co.; $15,000; L. P. Ross, president; C. E. Chittenden, treasurer; J. W. Sandercock, general manager; Claude Hibbard, superintendent; Men's Cotton Ribbed Underwear; 13 sewing machines; buy 7/18 carded and combed yarn. (F) 11
Hawley. L. & P. Knitting Co.; Sweaters; sell direct. ..
Harrisburg. Commonwealth Knitting Mill; I. H. Scharadin, proprietor, 1823 Penn St.; Arthur Townsend, superintendent; Women's Cotton Ribbed Underwear; 6 sewing machines; 7 ribbers; E. M. Townsend & Co., N. Y., s. agts.; I. H. Scharadin, buyer; buy 20 to 26 cotton. (E) 10
Philadelphia. Bell Hosiery Co., Mascher and York Sts.; Joseph Derk, president; Jacob Keinel, treasurer; J. D. Parke, superintendent and buyer; Ladies' and Children's Half Hose, 200 needle; 15 loopers; 2 welters; buys 14s to 32s C Peeler and C Egyptian on cones. (S) (F) 100
Philadelphia. Columbia Knitting Mills; Robert Mullin, proprietor; 2427 Mascher St.; Cotton Seamless Half Hose; 176 needle; 6 loopers; sell direct; R. Mullin, buyer; buy 22s to 50 carded Peeler yarn on cones. (E) 43
Philadelphia. Derby Knit Goods Mfg. Co., 4958 Baynton St.; Ernest Breathwaite, Manager and superintendent; Sweater Coats and Women's Ribbed Underwear; 11 sewing machines; gas. 11
Philadelphia. Franklin Hosiery Co., 2731-5 No. 6th St.; Ladies' Fine Gauge Hosiery; sell direct; buy 18s to 60s cotton yarn on cones. 45
Philadelphia. Germania Cassimere Hosiery Co.; Max Sarfert, proprietor. Harry K. Pulster, superintendent; Infants' All Wool Hosiery; 26 ribbers; 3 loopers; buy 2/46 to 2/50 Australian wool and 2/15 silk. 25
Philadelphia. Graef, Chris, 186 W. Dauphin St.; Fancy Knit Goods and Sweater Coats; buy 2/30 and 2/16 worsted yarns. (F) 2
Philadelphia. Harrison Looping Co., 2632 N. Mascher St.; Looping Hosiery for the Trade; 20 loopers. (E) ..
Philadelphia. Logan Hosiery Mills, 4945 Wakefield St., Germantown; Jos. F. Gee, manager; Men's and Women's Seamless Cotton, 176-200 Needle Hosiery; 4 ribbers; 1 welter; 3 loopers; sell direct; Jos. F. Gee, buyer; buys 12s to 24s combed yarns on cones. (S) (F) 40
Philadelphia. Maybaum, H. W., 2318 No. 8th St.; Seamless Hosiery. ..
Philadelphia. McCaffrey & Totten, 40 E. Silver St.; Fine Seamless Hosiery; sell direct. ..
Philadelphia. Miehpaul Mfg. Co., The, 2821 Jasper St.; $10,000; M. Laupheimer, president and superintendent; A. Nordlinger, treasurer; Sweaters, Sweater Coats, Ladies' Blouses, Knit Jackets and Fancy Knit Goods; 12 sewing machines; sells direct; buys 2/10 to 2/40 wool and worsted and 10s to 24s cotton yarn. (E) 20
Philadelphia. Miller, H., 48 Pastorious St., Germantown; Sweater Coats; 2 sewing machines; sells direct. (F) 2
Philadelphia. O'Connell, James A., Kensington Ave. and Huntington St.; Ladies' Seamless Hosiery, 200, 216, 240 needle goods; 22 loopers; 8 sewing machines; E. W. Parks, N. Y., s. agt. 150
Philadelphia. Ontario Sweater Mills, 212 Church St.; High Grade Sweater Coats and Fancy Knit Goods; 5 sewing machines; sell direct; buy 2/21 and 2/15 wool, 3/18 worsted, 2/7 to 2/12 cotton yarns. (E) 4
Philadelphia. Remsen, G. W., S. W. cor. Front and Clearfield Sts.; Seamless Half Hose and Women's Full Fashioned Cotton Hosiery. (E) ..
Philadelphia. Rieffel, A., 249 Collom St., Germantown; Knit Gloves, Worsted; 3 loopers; 6 sewing machines; sells direct; buys 2/15, 2/18, 2/20 worsted and 2/20 cotton yarns. (S) (F) 50
Philadelphia. Rockwood Hosiery Mills, 31 So. 3d St.; Seamless Half Hose, Women's Seamless and Children's Hosiery, Lisle and Mercerized; sell direct; Harry Sacks, buyer. ..
Philadelphia. Surpass Hosiery Mills; Munz & Beck, proprietors; 2420 Waterloo St.; Ladies' High Grade Seamless Hosiery; specially fine gauze goods; 2 loopers; 2 sewing machines; sell direct; buy 2/65 mercerized and 1/80, 2/80 cotton yarns. 14
Philadelphia. Vim Knitting Mills; M. M. Adams; 2420 Waterloo St.; Children's Ribbed Hosiery; 15 ribbers; 2 loopers; Hinchman, Vezin & Co., N. Y., s. agts.; buy 14s to 16s cotton yarns on cones. 14
Pottstown. Camel Hosiery Co., King and Adams Sts.; Allen B. Kerr, president; Arthur Booth, treasurer; Seamless Cotton Half Hose, 188 needle; 4 ribbers; buy 12 to 16 yarn. 22
Pottsville. Donohue's Knitting Mills, 701 Second St.; Women's Cotton Underwear; 11 gauge; 8 sewing machines; 2 ribbers; Lamson King & Co., Phila., s. agts.; M. M. Donohue, buyer; buy 24s. (F) (E) 6
Reading. Continental Hosiery Mills, Ltd., 501 No. 10th St.; Seamless Half Hose and Women's Seamless Hosiery; buy 16 yarns. (F) 20
Reading. Davies Hosiery Co., The; Chas. T. Davies, proprietor; 337 Cherry St.; Ladies' Hose and Half Hose; Cotton and Lisle; Bateson & Dowd, N. Y., s. agts.; Chas. T. Davies, buyer; buy 24 to 60 Egyptian, 24/2 to 30/2 combed and carded Peeler. (F) (E & S) 40
Reading. Invincible Hosiery Mills; John Goelz and Charles Hunsberger, 239-241 Cedar St.; $10,000; Fine Seamless Cotton Hosiery; 4 ribbers and 2 loopers; buy 36/2, 50/2 yarn. (S) 12
Reading. Summers, Chas. S., 1142 Mulberry St.; Half Hose, 144 needle; sell direct. 10

Rothsville. Rothsville Knitting Mills; $10,000; A. J. W. Baker, president; C. W. Grosh, treasurer; Cotton and Lisle Seamless Hosiery; 6 ribbers; 8 loopers; finish; buy 10 to 50 yarn. 60

South Bethlehem. Pearson Knitting Mills. 440 Seneca St.; A. F. Pearson, treasurer; Robt. D. Pearson, general manager; Children's Vests and Women's Skirts; Cotton; 4 sewing machines; Lindsay J. Riggins, N. Y., s. agt.; A. F. Pearson, buyer; buys 12s to 22s on cones. (E) 10

RHODE ISLAND.

Central Falls. Landry, A., 346 Central St.; Hosiery. ..

Pawtucket. Pawtucket Hosiery Co., 131 Clay St.; J. D. Hemphill, president; Wm. Comery, superintendent and buyer; Seamless Half Hose, 200 and 220 needle; 3 ribbers; buy mercerized, Italian tram and combed Egyptian yarn. (F) (E) 9

Woonsocket. Grey Rock Glove Co., Burdick Bldg.; $50,000; Howard F. Burdick, secretary and treasurer; Everett E. Pike, manager. ....

TENNESSEE.

Madisonville. Madisonville Knitting Mills Co.; $25,000; R. C. Kefauver, president; T. E. H. Closkey, vice president; J. W. Cobb, secretary; Thos. L. Upton, treasurer and general manager; Ladies' Seamless High Grade Hosiery; 2 sewing machines; sell direct, and James Jamieson & Co., N. Y., s. agts.; T. L. Upton, buyer. (S) (D) 30

UTAH.

Logan. Founesbeck Knitting Works; Founesbeck & Son, proprietors; Cotton and Worsted Underwear and Sweaters; sell direct; buy 20s single cotton and 1/30s worsted yarns. (E) ....

VERMONT.

Bennington. Smith Hosiery Mill; E. A. & E. H. Smith; Half Hose. ....

WASHINGTON.

Seattle. Fleissig, I.; Sol Myers, manager and superintendent; Sweaters, Sweater Coats, Hunting Jackets, Ladies' Knit Goods and Children's Jackets; 2 sewing machines. 4

WEST VIRGINIA.

Fairmount. Knox Sox Co., The; $5,000; J. P. Thompson, president; B. Knox, treasurer, manager and buyer; Men's Seamless Hosiery; 1 sewing machine. 6

WISCONSIN.

Luxemburg. Inland Knitting Works. $20,000; Louis Bellin, president; P. Boucher, treasurer; Emil Zwisler, superintendent; All Kinds of Knit Goods. ..

Phillips. Scheffler, Paul; Woolen and Worsted Sweaters and Coats. ....

NEW SILK MILLS.

Looms

CONNECTICUT.

Meriden. Adlman, The H., Co.; $5,000; H. Adlman, president and treasurer; Braids for Dress, Cloak and Millinery Trade; also Trimmings; 35 braiders; sell direct; buy 15/2 mercerized and 40/1 glazed yarn. (E) ....

Mystic. Ninigret Mills Co., The; $100,000; Otho O'Sullivan, president; Geo. W. Mansfield, treasurer; A. T. L. Ledwidge, superintendent; Linings and Colored Silk Fabrics. 112

Norwich. Smith & Kaufemann, 541 .W 132d St., N. Y.; established branch mill here; Silk Ribbons; sell direct. (S) 50

MISSOURI.

St. Louis. St. Louis Embroidery Co.; $25,000; J. H. Cutler, president and buyer; A. L. Stebbins, treasurer; Infants' Wear, Ladies' Kimonas and Swiss Embroidery; 6 large embroidery machines; 40 special sewing machines. ....

NEW JERSEY.

Paterson. Colonial Ribbon Co.; $60,000; A. V. Seymour, president; Chas. Slingland, treasurer; W. E. Fischer, superintendent and vice president. Ribbons: Passavant & Co., s. agts. (S) 70

Paterson. David, B. Edmund; Fancy Tie Silks and Novelties. 350

Paterson. Elwood Ribbon Silk Mfg. Co.; Strange Mill; Ribbons. 10

Paterson. Goldman & Schottland, Taylor St. and Railroad Ave.; Taffetas. 10

Paterson. Guarantee Silk Lining Mills, The; $25,000; Frederick E. Schmidt, president and agent; Ernest A. Schmidt, treasurer; Dress and Lining Silks; sell direct; buy 40/2, 60/2 combed Egyptian, Japan and China raw silk. 50

Paterson. Ideal Silk Mfg. Co.; Silk Dress Goods; James Talcott, N. Y., s. agt. 20

Paterson. Jahn, Hugo B.; Hamilton Mill; 19 Mill St.; Broad Silks. 4

Paterson. Lincoln Silk Co.; $25,000; Emil Herts, president; David Young, treasurer and superintendent; Wm. H. Young, agent; Jacquard Silk Goods; 300 spindles; sell direct. (E) 30

Paterson. Stehli & Co.; Barbour Mill, Spruce St.. 100

Paterson. Wilson, John; Strange Mill, Madison St.; winding, doubling and reeling silk. ....

Riverside. Crown Ribbon Co.; $125,000; Paul Sellhast, Wm. Hollmann, interested; Silk Ribbons and similar fabrics. ....

West New York. Gerretson Silk Co.; $25,000; Robert Smith, president and superintendent; Joel W. W. Swindells, treasurer; Broad Silks; sell direct. (S) 30

West New York. Rogers & Thompson; successors to Clifton Silk Mills; new addition to plant, 102 by 35 feet, 2 stories. ....

NEW YORK.

Binghamton. The Ballard Silk Co.; C. T. Ballard, president; E. H. Ballard, treasurer and superintendent; Black and Colored Taffetas; 20 spindles; sell direct; H. D. Ballard, buyer; (E) 6

Brooklyn. Brooklyn Ribbon Mills, 790 Broadway; $5,000; J. F. Levy, president; Louis Kronthal, treasurer and buyer; Ribbons. 27

Brooklyn. Brooklyn Silk Winding Co.; E. Neuendorff, proprietor; 101 Suydam St.; 200 silk spindles. ..

Cortland. Standard Silk Throwing Co.; $25,000; N. P. McTague, president and treasurer. ....

PENNSYLVANIA.

Ashley. Funke, Herman & Sons; Herman Funke, superintendent; Embroideries; 10 sewing machines; sell direct; Chas. & A. Funke, buyers; buy 36/2 to 100/3 cones and tubes. 5

Bangor. Thissen Silk Co.; $50,000; Jacob Thissen, president and superintendent; W. F. Jordan, treasurer; Silk Gloves; 8 knitting and 150 sewing machines; E. O. Spindler, N. Y., s. agt. (S) (D) ..

Emaus. Frederick, J. H., Ridge St.; Broad Silks.. 30

East Greenville. Imperial Ribbon Co.; A. Schultz, superintendent. ....

Pen Argyl. Pen Argyl Silk Co.; $50,000; John W. Stewart, president; Charles J. Knowles, treasurer and agent; Throwing Organzine; 10,000 spindles; Chas. J. Knowles, buyer. ....

Philadelphia. Philadelphia Embroidery Co., 2720 Susquehanna Ave.; Silk, Cotton and Mercerized Embroideries; sell direct; buy 40 and 60 yarns. ....

Scranton. Lush Silk Co., W. A., The; $50,000; David R. John, president; W. A. Lush, treasurer and superintendent; Thrown Silks; 8,000 spindles; W. A. Lush, buyer; new mill building, 126 by 45 feet, erected. ....

Tobyhanna. Frisbie Throwing Co.; Enos B. Frisbie, president; G. W. Frisbie, treasurer; 4,200 spindles. (S) ....

Wilkesbarre. B. Bauer & Co., Morton St., near Walnut St. and 17 Linton St.; Embroideries and Novelties; buy cotton, silk and mercerized yarns. (Bl & F) (E) 6

RHODE ISLAND.

Hamilton. Dragon Silk Mill; (owned by Amer. Picker & Strapping Co.); Robert M. Baeny, president; Arthur D. Champlin, secretary and treasurer; Dress, Lining Silks and Satins. ....

Pawtucket. Glencairn Mfg. Co.; $100,000; D. T. Brown, president; John G. Brown, treasurer and agent; Silk and Mercerized Wide Shoe Laces; 100 braiders; Stewart, Howe & May, s. agts; 100 braiders. (E) .....

Providence. Lowenstein, Edgar J.; Oriental Mills; Spun Silk Yarn; 7,000 spindles; sell direct. (J) (S) In plant formerly run by Oriental Mfg. Co. .....

MISCELLANEOUS NEW MILLS.

DELAWARE.

Wilmington. Brandywine Bleachery. James T. Winnington, proprietor; 52 Race St.; Bleaching Turkish Towels, etc.

MASSACHUSETTS.

Amherst. Brown Mercerizing Co., The; $50,000; E. D. Marsh, president; Mason A. Dickinson, treasurer; C. E. Watson, agent and buyer; Albert Misch, superintendent; Crochet Yarn, Darning Cotton and Job Mercerizing. (Succeed J. E. Brown Cotton Works.)

East Brookfield. Rhode Island Dyeing & Fin. Corp. (Woonsocket); established branch mill here; cutting and Finishing Velvets.

Fall River. Hopkinson Dyeing & Textile Works; Thomas Hopkinson, proprietor; Dyeing Yarns, narrow Fabrics, Braids, Tie Bands, etc. (Later propose installing machinery for making half hose.)

Medford. Shawmut Finishing Company; (N. Y. office 53 Leonard St.); $25,000; Jas. D. Lloyd, president; R. B. Weeden, treasurer; Finishing Cotton Piece Goods. (S)

South Acton. Moore & Burgess Webbing Co.; $10,000; Non Elastic Webbings in Cotton, Silk and Mercerized; sell direct.

MICHIGAN.

Jackson. Michigan State Prison; H. N. Armstrong, warden; installed plant for making Binder Twine; capacity 12,000 lbs. daily. (E)

NEW JERSEY.

Montville. Catterall Printing Co.; $50,000; Hon. Thos. J. Hillery, president; Fred C. Whitehead, treasurer; Adam Catterall, agent; Matthias C. Lokker, superintendent; Calico Printing, Flag Cloth, Bunting and Other Decorations; print cloth 23 to 44 in. wide; Davis & Catterall, N. Y., s. agts. (S & W)

Paterson. Arkwright Mfg. Co.; $25,000; John F. Roscow, president and treasurer; Dyeing and Printing of Cotton Piece Goods. (S)

NEW YORK.

Binghamton. W. M. Sharp Co.; W. M. Sharp, proprietor; J. W. Shea, superintendent and buyer; Towels and Crashes; sell direct; 432 ring spindles and 43 looms.

Brooklyn. Zurich Silk Finishing Co., 33-37 Bethune St.; Silk Finishers.

Lockport. Lockport Textile Co.; John Aldred, president; Joseph Aldred, treasurer, agent and superintendent; Linen and Union Goods; 36 looms; sell direct. (Bl & F) (E & S)

Minetto. The Minetto-Meriden Co.; new building erected; plant of the Meriden Curtain Fixture Co. removed here and consolidated with Minetto Shade Cloth Co.

New York. Smith & Uhlig; $15,000; Carroll D. Smith, president; Gus H. Uhlig, Jr., treasurer; Silk Finishing.

Troy. Wynantskill Mfg. Co.; $50,000; Edward F. Murray, president; Wm. D. Mahoney, treasurer; John Nolan, secretary; Mercerize Yarns and Make Knit Specialties.

NORTH CAROLINA.

Burlington. Burlington Dye Works; D. E. Sellers, secretary and treasurer; B. L. Boland, superintendent; Dyeing and Finishing Hosiery. (S)

Tryon. Pacolet Finishing Co.; $125,000; John F. Wilcox, president and buyer; H. E. Stillwell, treasurer; Dyeing and Finishing Hosiery (for Skyland Hosiery Co. and Tryon Hosiery Co.); capacity 2,500 lbs. per day.

OHIO.

Piqua. Piqua Dyeing & Bleaching Co.; $20,000; David M. Ranken, president and treasurer; Dyeing and Bleaching Knitted Cloth. (S)

PENNSYLVANIA.

Lansdowne. Hall, Wm. & Co.; Union Huck Towels, in addition to shoddy plant; 30 looms; buy 10 to 20 warp, 8 spun cotton and 14 tow linen yarn.

Philadelphia. Hagar Hosiery Finishing Works, O St., above Westmoreland; Finishing Hosiery; W. Hagar, buyer.

Philadelphia. Ideal Dye Works; John Greany; Schiller St., below Richmond; Dyeing Cotton, Woolen and Jute Yarns; capacity 6,000 lbs. per day.

Philadelphia. Keystone Finishing Works; Hiram E. Perry, proprietor; Womrath and Tackawanna Sts.; Nappers, Dyers and Printers of Cotton Goods; 6 dyeing, 1 printing and 8 napping machines; 1 tenter frame; Hiram E. Perry, buyer; office, 1602 Van Dyke St. (S)

Philadelphia. Schweigart Bros., Tioga and Aramingo Sts.; Dyeing Cotton Skein Yarns; capacity 2,000 lbs. per day; Albert Schweigart, buyer.

Wilkesbarre. The Wyoming Yarn Co.; Mercerizing, Dyeing, Bleaching and Coning Yarns.

RHODE ISLAND.

Providence. Rhea Yarn Co., Willard Ave.; office 28 No. Main St.; W. S. Hodgson, agent; Special Yarns for Braid, Plush, Knitting, Weaving and Embroidery from Ramie Fiber.

Projected Industries.

Under this head are enumerated such projects as are now in course of construction, or which in all probability soon will be, but are not sufficiently far advanced to be properly identified in the list of new mills.

COTTON.

GEORGIA.

Ballground. Ballground Cotton Mills, The; A. J. Lovelady, president; C. M. Wafford, vice president; Frederick A. Abbott, general manager and superintendent; (D); 10,000 spindles; 200 looms.

MASSACHUSETTS.

Worcester. Worcester Wadding Mfg. Co.; $3,000; A. Solod, Nathan Pemstein, interested.

NORTH CAROLINA.

Vass. Cameron, A.; Cotton Yarns; 20 to 30s soft; 5,000 spindles.

Zebulon. Archibald Meldrum; interested in organizing company with capital stock of $100,000 to erect plant for making hosiery yarns.

TEXAS.

Colorado. B. N. Barrett interested in company proposed; capital $150,000; 5,000 ring spindles; 150 looms; Sheetings; steam.

WOOLEN.

RHODE ISLAND.

Allendale. H. A. Kirby and Geo. Darsie; interested in new company to operate old Allendale Mill; will install about 2,600 spindles.

Pawtucket. Tamarack Co.; $100,000; Weaving Textile Fabrics; 100 looms; Wm. P. Wood and John Henshaw reported interested.

Important Changes.

COTTON.

MARYLAND.

Dickeyville. Ashland Mfg. Co.; under new management; $210,000; J. Hurst Purnell, president; J. C. Wilmerding, Jr., treasurer; Wellington Sears & Co., s. agts.

MASSACHUSETTS.

Boston. American Circular Loom Co. (Formerly at Chelsea, burned; established new plant at North Cambridge.)

Lowell. Meyer, John C. & Co., 1449-95 Middlesex St.; F. H. Safford, superintendent; Spool Cotton and Silk, all kinds; bleach, dye and finish; steam; sell direct; buy all kinds and numbers, 4s to 120s cotton; 77 Summer St., Boston. Plant removed from Jamaica Plain (Boston).

North Grafton. Paton, William, Company; new organization takes over Wm. Paton, Ltd.; $50,000; James Paton, president; Robert Officer, treasurer, agent and superintendent.

Stoughton. Chelsea Braiding Co.; John W. Wood, treasurer and general manager; Elastic Webs and Cords; 17 narrow looms; 50 braiders; sell direct; buy cotton, silk and mercerized yarns from 50/2 to 10/3. (Removed plant from Chelsea.)

NEW JERSEY.

Camden. Franklin Narrow Fabric Co.; $50,000; Hugh Taylor, president; James Franklin, treasurer; Harry Z. Taylor, general manager and buyer; successors to Stokes & Taylor Co.

NEW YORK.

Gouveneur. International Lace Co.; $400,000; Geo. E. Lackey, president; new company organized to operate plant formerly run by International Lace Mfg. Co.; additional looms installed.

Stuyvesant Falls. Collins Bag Co. (84 White St., New York City); $100,000; J. R. Collins, president; C. H. Landon, treasurer; R. H. Plass, superintendent; operate plant formerly run by Van Alen Cotton Mills; 10,000 ring, 5,200 mule spindles and 400 looms; sell direct.

NORTH CAROLINA.

Charlotte. Chadwick-Hoskins Co., The, Inc.; capital stock $3,000,000; consolidates Dover Yarn Mills, Chadwick Mfg. Co., Hoskins Mills and Louise Mills; electrical equipment installed in Mills 2, 1 and 4; about $40,00 expended.

Kings Mountain. Anna Cotton Mills, The; $95,000; reorganization Crowder Mountain Cotton Mill; J. S. Mauney, president.

Mt. Holly. Mt. Holly Cotton Mills; $50,000; A. P. Rhyne, president; Henry A. Rhyne, treasurer; takes over Mt. Holly Cotton Mills and Albion Cotton Mills Co., previously run with A. P. Rhyne, proprietor.

PENNSYLVANIA.

Philadelphia. Royle, Geo. & Co.; formerly Royle & Campbell.

Wilkesbarre. De Luxe Textile Co., 477 Horton St.; Arthur Clifford, president; G. Woodall, secretary and treasurer; Alfred Clifford, manager and buyer; Laces and Veilings; 6 looms; (Bl & F); (S); buy 50/2 to 18/2 cotton; succeed Star Lace Co.

RHODE ISLAND.

Alton. Richmond Lace Works; $250,000; Chas. F. Eddy, president; Justin N. Morse, treasurer and manager; new company, taking over plant of Alton Lace Mfg. Co.

Bellefont. Bellefont Webbing Co.; $20,000; F. W. Tillinghast, president; G. F. Phillips, treasurer; J. Grimshaw, superintendent; succeeds Brindle Webbing Co.

Pawtucket. Slater Mfg. Co., The; incorporated with capital stock $400,000; Frank A. Sayles, president; Wm. H. Harriss, treasurer; J. T. Kirk, superintendent; reorganization Slater Cotton Co.

Providence. Rubdry Towel Co.; $100,000; Horace A. Kimball, president; H. Earle Kimball, treasurer; plant removed here; formerly at Worcester.

SOUTH CAROLINA.

Gaffney. Hamrich Mills; new name adopted by the Merrimac Mills.

WOOLEN.

CANADA.

Nova Scotia, Clendyer. Hopewell Woolen Mills; consolidated with McDonald Bros.; operated as Glendyer Woolen Mills, Ltd.; $40,000 capital stock.

MAINE.

Sanford. Goodall Worsted Co.; $1,000,000; new corporation consolidating Goodall Worsted Co. and Maine Alpaca Co.

MASSACHUSETTS.

Boston. Merchants' Wool Scouring Co., The; $21,000; new corporation to operate Boston Wool Scouring Co.'s plant, F. V. Prior, manager.

Farnumsville. Excelsior Mills; purchased by S. Slater & Sons; now known as Wuskanut Mill.

Hinsdale. Hinsdale Woolen Mills; $50,000; James M. Morrison, president; John J. Hennessy, treasurer; takes over plant of Hinsdale Woolen Co.; Wool Blankets.

South Royalston. Whitney, Geo., Woolen Co.; plant now controlled by American Woolen Co.

West Stoughton. Stoughton Mills, Inc.; incorporated with capital $75,000; take over plant of Stoughton Mills; Wool Shoddies.

Winchester. Bacon Felt Co.; formerly Bacon Felt Works; W. D. Smith, president; Dwight Smith, agent and treasurer.

NEW YORK.

Auburn. Golden Fleece Blanket Co.'s Mill; leased and operated by John W. Rice, manufacturing Blankets.

Jamestown. Acme Worsted Mills; $150,000; Geo. B. Pitts, president; C. N. Bargar, treasurer; Irving Broadhead, superintendent; reorganization of the Greenwood Worsted Mills.

PENNSYLVANIA.

Philadelphia. Delaine Mills, Inc.; new name adopted by the Maynard Mills Co., manufacturing Fine Worsted Fabrics.

Philadelphia. Unity Worsted Co.; $100,000; takes over and operates plant of Unity Woolen & Worsted Co., Jasper and Orleans Sts.

Philadelphia. West End Woolen Mills, 64th and South Sts.; Jos. D. Murphy, president; Edw. V. Murphy, secretary and treasurer; Samuel Rigby, superintendent; operate plant formerly run by H. S. Henry.

RHODE ISLAND.

Bristol. Namquit Woolen Co.; new company organized to continue Namquit Worsted Mills; J. Harvey Merrill in charge; M. T. and J. L. Rubinstein, 349 Broadway, N. Y., interested.

Hope Valley. Locustville Woolen Co.; $60,000; Henry D. Bailey, president; Edwin M. Canfield, secretary and treasurer; new company operating plant formerly run by Youngman & Hammond.

Providence. Norway Worsted Co.; formerly known as Hodgson Worsted Co.; Worsted Yarns.

WISCONSIN.

Milwaukee. Western Worsted Mills; $25,000; F. M. Weinhold, president; W. G. Hays, treasurer; John Vicks, superintendent; Men's Wear; new company organized to operate plant formerly run by Kassmann Worsted Co.

KNIT.

ALABAMA.

Huntsville. Huntsville Knitting Co.; new corporation; formerly known as The Rowe Knitting Co.

CANADA.

Ontario, Brantford. Brantford Hosiery Co.; sold to Chipman Holton Co.

Ontario, Stratford. Stratford Knitting Co.; incorporated as R. M. Ballantyne, Ltd.; moved to new mill building.

GEORGIA.

Augusta. Gavin Mfg. Co., The; formerly J. J. Tyler's Hosiery Mill, Inc.; addition to be made to plant and 8 new knitting machines and 3 ribbers installed; also finishing plant; goods hitherto made in the grey.

Dalton. Eagle Hosiery Mills; bought out plant of Dalton Knitting Mills; consolidated under name of Eagle Hosiery Mills.

ILLINOIS.

Milford. Schwartz Knitting Co.; removed plant here from Chicago; make High Grade Sweaters.

NEW JERSEY.

Newark. Essex Knitting Mill; Nathan Cohen; 50 Johnson St.; formerly plant of Cohen & Marku at Philadelphia.

Newark. Morgan Knitting Mills; H. T. Morgan and W. T. Russell, proprietors; All Kinds of Sweater Coats, Automobile Coats, Knit Vests; 24 flat knitting and 12 sewing machines. (Formerly D. E. Knit Goods Co.)

NEW YORK.

Brooklyn. Co-operative Knitting Mills; E. C. Seigerman, proprietor; formerly operated by Chas. Gunberg; 4 new machines installed.

Brooklyn. International Knitting Mills; Samuel Ash, proprietor; changed name from National Knitting Mills.

Brooklyn. Rodney Knitting Co.; removed plant to Hamilton, N. Y.

Highland. Highland Knitting Mill; $20,000; Philip Shantz, president and treasurer; company organized to operate plant formerly run by J. K. Mueller.

NORTH CAROLINA.

Enfield. Enfield Hosiery Mills; successors to Enfield Knitting Mills; added 12 new knitting machines; total 90 machines.

Tarboro. Wilson & Dawson Hosiery Mills; Ladies' Hosiery. (Formerly Wah Rhee Hosiery Co.'s mill.)

Vaughan. Vaughan Hosiery Mills Co.; reorganized; new machinery equipment installed; 176 latch needle hosiery.

OHIO.

Cleveland. Keetch Knitting Co.; $50,000; William I. Keetch, president; C. A. Raven, vice president; H. C. Clark, secretary and treasurer; succeeds Raven Knitting Co.

PENNSYLVANIA.

Bernville. Gruber, D. F.; plant formerly located at Reading.

Doylestown. Sheatz, Harvey O.; purchased plant formerly run by Doylestown Hosiery Co.

Hawley. The Julius Brandes Mfg. Co. (Paterson, N. J.); purchased controlling interest in U. S. Knitting Mills Co.

Philadelphia. Amherst Knitting Co., Allegheny Ave. and Boudinot St.; removed plant to Baltimore, Md.

Philadelphia. Atlantic Hosiery Mills; new name adopted by Lazowick Bros., proprietors.

Philadelphia. The Brown-Moore Hosiery Co. and Brown Knitting Co.; plant to be merged and located at Hancock and Westmoreland Sts., location of the Brown-Moore Co.

Philadelphia. Engle, Louis & Bro.; now operate under name of the Lebro Knitting Mills; also added 10 new knitters; 2 sleevers; 2 body frames and a new 16-spindle winder.

Reading. Barto & Matz; operate plant formerly run as S. & M. Hosiery Co.

SILK.

NEW JERSEY.

Paterson. Armor Silk Co., The; formerly Fishkin Silk Co.

Paterson. East Side Throwing Mills; operate plant formerly run by Miller Throwing Co.

Paterson. Tynan Throwing Co.; $50,000; Leonard J. Tynan, president and treasurer; Henry J. Tynan, manager; J. W. Post, superintendent; Commsision Throwing; 6,000 spindles. (Succeeds J. E. Tynan, deceased.)

NEW YORK.

Auburn. Auburn Silk Mill; reorganization of The Kidney & Brigden Co.; $12,000; T. H. Garrett, Jr., president; R. S. Kidney, treasurer and superintendent; operate 40 looms, on Dress Silks.

New York. Reiling, David & Schoen; partnership dissolved; now Reiling & Schoen.

New York. Rosenberg, Wm. J., 35 E. 20th St.; Upholstery Trimmings; sell direct; formerly plant of Williams, Son & Co.

MISCELLANEOUS.

MASSACHUSETTS.

Lowell. Jamaica Dye & Bleach Works, 1449-95 Middlesex St.; John Connor, superintendent; Bleach and Dye Cotton Skein Yarns; steam; firm, buyers; Boston office, 77 Summer St. (Plant formerly located at Jamaica Plain, Boston.)

Millbury. National Crash Mfg. Co.; (formerly plant of the U. S. Linen Co.); $50,000; C. L. F. Coburn, president; Stanley W. C. Downey (45 Milk St., Boston), treasurer; S. L. Gabriel, treasurer; S. E. Benjamin, superintendent.

NEW HAMPSHIRE.

Meredith. Atlas Linen Corporation; Thos. Allen (Boston), president; Louis McCarthy (Boston), treasurer; B. S. Clarke, agent, superintendent and buyer; W. H. Burgess & Co., N. Y. s. agts.; new company to operate Atlas Linen Co.'s plant.

NEW JERSEY.

Camden. Jos. Hussong Co.; $25,000; incorporation takes over Camden Dye Works; Jos. Hussong, proprietor.

Paterson. The A. H. Hart Co. (New York); Linen Twines, Yarns and Threads; removed plant to Granite Mill.

PENNSYLVANIA.

Mifflintown. Novelty Print Works; formerly at Philadelphia; removed to this place; also added extracting and discharge work of hosiery.

Philadelphia. True Shape Hosiery Co., Jasper and Thayer Sts.; formerly known as Blood Mfg. Co.

Enlargements and Improvements.

COTTON,

ALABAMA.

Oxford. Planters' Mfg. Co.; capital increased to $165,000; a new addition built, 160 feet long, 3 stories high; new equipment installed.

CONNECTICUT.

Danielson. Danielson Cotton Co.; new brick building 100 by 150 feet, 2 stories; installed 200 new looms.
Middletown. Russell Mfg. Co., The; addition 110 by 150 feet, under construction; 100 new looms to be added.
New Haven. Narrow Fabric Corporation; new 3-story brick building erected 200 by 68 feet.
Plainfield. Lawton Mills Corporation; new building, 200 by 180 feet, 3 stories, under construction; will install 24,000 new spindles and 500 looms.

GEORGIA.

Elberton. Swift's Cotton Mill; rebuilt dye plant and equipped with new machinery; also erected new warehouse.
Hampton. Hampton Cotton Mills; capital stock increased to $150,000; new addition 75 by 250 feet; 4,000 additional spindles put in—total, 10,000 spindles.
La Grange. Unity Cotton Mills; to erect new mill No. 2 for purpose of using large surplus accumulated.

ILLINOIS.

Chicago. Western Thread & Dye Works; enlarged plant and added machinery in bleaching department; increased capacity.

MAINE.

Westbrook. Dana Warp Mills; erecting new 5-story mill, 220 by 93 feet, for future use

MASSACHUSETTS.

Adams. Plunkett, W. C. & Sons; new machinery installed for wet twisting, cone, tube and skein winding and making yarns for thread manufacturers.
Blackstone. Blackstone Mfg. Co.; installed eight new spinning frames.
Chelsea. Martin, T. & Bro., Mfg. Co.; new mill erected, 100 by 60 feet, 2 stories; 50 new looms installed.
Fall River. Borden, Richard, Mfg. Co.; new addition built and 7,700 spindles added.
Fall River. New England Cotton Yarn Co., Dept. 17; combs installed for 100,000 lbs. yarn weekly; will run on fine goods entirely.
Fall River. Flint Mills; installed 14 new Howard & Bullough pickers.
Fall River. Sagamore Mfg. Co.; new mill for making ordinary grade cotton goods; 50,000 spindles to be installed.
Lawrence. Pacific Mills; change in card room; all old machinery replaced with new.
Milford. Lapworth, Wm. & Sons Co.; added 18 new looms.
New Bedford. Dartmouth Mfg. Corp.; one-story brick and concrete building, 137 by 63 feet, for carding department.
New Bedford. Potomska Mills; new weave shed, 344 by 299 feet, saw tooth roof; capacity 2,600 looms; machinery removed from old building; equipped with electricity.
Webster. Slater, S. & Son, Inc.; new weave shed under construction, 133 by 460 feet, 2 stories.
Winchendon. White, N. D. & Sons; new mill, 304 by 54 feet, 2 stories; to install 224 looms.

NEW HAMPSHIRE.

Exeter. Exeter Mfg. Co.; replaced old machines with 500 new looms.
Newmarket. Newmarket Mfg CC.; added 20 45-inch flat cards and 26 62-inch looms.

NEW JERSEY.

May's Landing. May's Landing Water Power Co.; 457 new Draper looms installed, replacing old ones.
Millville. Millville Mfg. Co.; replaced 644 old looms with new Draper looms; total of 1,057.

NEW YORK.

Le Roy. Le Roy Cotton Mills; new addition, 48 by 150 feet, for yarns; new machinery added, including combing machines.

NORTH CAROLINA.

East Durham. Durham Cotton Mfg. Co.; new boiler and engine house; 6 high pressure boilers installed and one compound engine 750 h. p.; also built reservoir 1,500,000 gallons capacity.
Henderson. Harriet Cotton Mills; building No. 2 Mill; about 12,000 spindles to be installed.
Hillsboro. Eno Cotton Mills; new weave shed and dye house erected; installed 200 new looms.
Mt. Airy. Laurel Bluff Cotton Mills; J. L. Brown; installed 2,000 new spindles.
Salisbury. Vance Cotton Mills; Warps and Yarns; addition 40 by 50 feet, for warper room; installed beam and ball warpers.
Shelby. Shelby Cotton Mills; added 6,500 new spinning spindles and 2,500 twisters.
Spray. Rhode Island Co.; added 48 new looms for making cotton blankets.

RHODE ISLAND.

Albion. Valley Falls Co.; new mill, 73 by 100 feet, 5 stories; 1,500 new spindles and a number of looms to be installed.
Shannock. Columbia Narrow Fabric Co.; new 1-story addition, 144 by 54 feet erected; 6 new looms installed.
Woonsocket. Manville Co.; added 140 new cards, replacing old ones.

SOUTH CAROLINA.

Clinton. Clinton Cotton Mills; new building erected, 125 by 350 fet, 5 stories; installed new 2,000 h. p. steam engine.
Fountain Inn. Fountain Inn Mfg. Co.; capital stock increased to $300,000 from $200,000; added 5,000 new spindles and 300 Draper looms, giving total of 15,000 spindles and 460 looms.
Greenwood. Greenwod Cotton Mills; propose adding 15,000 spindles in No. 1 Mill.

WEST VIRGINIA.

Martinsburg. Oriental Rug Co.; addition to plant, including 10 new looms.

WOOLEN.

CONNECTICUT.

Stafford. Phoenix Woolen Co.; new card room built, 54 by 82 feet, 1 story, brick; added 5 new sets cards 48 by 60 inch.

KENTUCKY.

Louisville. Fall City Woolen Mills; added 24 Crompton & Knowles looms.

MAINE.

Foxcroft. Mayo & Sons; new mill erected 110 by 60 feet, 4 stories; also replaced old water wheels with two new ones.

MASSACHUSETTS.

Athol. Kauffman, W. H.; rebuilt plant destroyed by fire; new equipment put in.
Clinton. Bigelow Carpet Co.; new weave shed, 327 by 89 feet, 5 stories, brick; electric power.
Fitchburg. Shirreff's Worsted Co.; new building, 184 by 95 feet, 1 story, saw tooth roof; 24 new looms added.

Lawrence. Marshall Worsted Co.; added 8 new looms.
Lawrence. Selden Worsted Mill; 8 new looms added, total of 36.
Lawrence. Washington Mills (American Woolen Co.); new dyehouse, 530 by 111 feet, 1 story, with ell 103 by 20 feet.
Monson. Ellis, A. D.; new mill, 65 by 120 feet, 3 stories, with ell 40 by 72 feet; to install 6 sets.
North Adams. Mayflower Worsted Mills; added 25 new looms.
North Adams. Waterhouse & Howard; added 2,000 new spindles and 20 looms.
South Barre. Barre Wool Combing Co., Ltd.; new hydro-electric plant, 350 h. p.

MICHIGAN.

Eaton Rapids. Horner Bros.; new building erected, 50 by 75 feet; enlargement to carding and spinning departments.

NEW HAMPSHIRE.

Tilton. Carter, A. D.; erected new dye house and also added 480 new woolen spindles.

NEW JERSEY.

Passaic. Forstmann-Huffmann Co.; new boilers added and a filter plant, capacity 1,800,000 gallons; new spinning mill, 500 by 400 feet, and weave shed, 400 by 600 feet, under construction.
Trenton. Princeton Worsted Mills; add 24 new looms, increasing to 100.

NEW YORK.

New York. Rosenblatt & Myers, 242 Canal St.; purchased plant formerly run by New Jersey Shawl Co., Paterson, N. J.; total of 14 looms.

NORTH CAROLINA.

Kernersville. Crews Mfg. Co.; increased size of dye house for purpose of putting in 1 new set cards and 4 looms.

OHIO.

Cleveland. Forest City Woolen Mills Co, The; $200,000 preferred, $250,000 common stock; company operates branch mill at Zanesville and Dresden, O., formerly The Kapner Bro. and Duga Hosiery Co.

PENNSYLVANIA.

Aston Mills. May Mfg. Co., The; new dyeing machinery installed for dyeing cotton and yarns.
Philadelphia. Beswick & Clay; added 1,000 new spindles.
Philadelphia. Collins & Aikman Co., Manayunk; added 54 new looms.
Philadelphia. Overbrook Carpet Co., 58th St. and Lancaster Ave.; rebuilt plant damaged by fire.
Philadelphia. Prudential Worsted Mills, Wayne Junction; added 30 new looms.
Philadelphia. Raglin Handcraft Mills; E. C. Beetem & Son, proprietors; Jefferson and Phillips Sts.; John G. Dietz, superintendent; Cloth and Rag Rugs, Curtains, Couch Covers and Rag Carpets; 34 looms; sell direct; C. G. Beetem, buyer; buys 2/8, 3/8, 4/8, 5/8, 44 cotton and jute yarn; steam; branch of mill at Carlisle, Pa.

RHODE ISLAND.

Washington. Livingston Worsted Co.; addition built to mill and 10 new C. & K. looms added.
Woonsocket. Lowland Worsted Co.; new mill under construction; expect to install Bradford system; 4,000 new spindles.

KNIT.

ALABAMA.

Fort Payne. Florence Hosiery Mills; added 50 new machines.

CANADA.

Ontario, Clinton. Clinton Knitting Co.; capital stock increased from $25,000 to $50,000; new building, 30 by 60 feet, 2 stories; dyehouse and finishing room; added machinery for making heavy worsted hose and half hose.

GEORGIA.

Atlanta. Atlanta Hosiery Mills; rebuilt plant destroyed by fire; new equipment installed, 107 knitting and 5 sewing machines; Men's and Women's Hosiery.

INDIANA.

Fort Wayne. Wayne Knitting Mills; addition 40 by 20 feet built; 9 new full fashioned machines added to equipment.

NEW JERSEY.

Dover. Guenther, Paul; added 10 new fine gauge full fashioned machines.
Paterson. Paterson Knitting Works; J. J. Schaerer, proprietor; Ladies' and Men's Wool and Worsted Sweaters; erected new building, 125 by 150 feet, 1 story, 5th Ave. and River St.
Vineland. Ellis Hosiery Co. (office 533 Market St., Phila.); added 36 more knitting machines.

NEW YORK.

Valatie. Harder Mfg. Co.; capital stock increased to $250,000 from $175,000; contemplate changing name to Harder Mills.
Waterford. Kavanaugh Knitting Co.; an addition under way; new mill, 229 by 105 feet, 3 stories, under way for making yarns, 19 to 34, for own use, surplus to be sold; also cotton warehouse, 100 by 100 feet, under construction; 10,000 spindles to be installed.

NORTH CAROLINA.

High Point. Durham Hosiery Mills, Inc.; installed 100 new knitting machines in No. 3 Mill.

OHIO.

Cleveland. Mentor Knitting Mills Co., The; (Mentor) Branch Mill; finishing; 50 sewing machines.

PENNSYLVANIA.

Birdsboro. Beyer, W. B. & Sons; addition built, 26 by 55 feet, 2 1/2 stories; first floor for sewing, pressing and packing room; second, knitting; added 10 new knitting machines.
Clifton Heights. Columbus Knitting Mills; added 20 new Paxton & O'Neil knitters.
Dauberville. Colonial Hosiery Mill; T. L. Sedel of Reading; Branch Mill; 20 machines established here.
Ephrata. Reading Underwear Co., Reading; established branch mill at Ephrata; 6 knitting and 5 sewing machines.
Nazareth. The Kraemer Hosiery Co.; 3-story addition, 42 by 56 feet, built to plant; installed 12 new full fashioned knitting machines.
Philadelphia. Aberle, H. C. & Co.; additional full fashioned knitting machines installed, increasing to 32.
Philadelphia. Boyle, A. & Bro.; addition built to plant, 2555 Fairhill St.; finishing department formerly located at Palethorp and Oxford Sts., removed.
Philadelphia. Clarke & Baker; added 50 more knitting Machines
Philadelphia. Diamond Knitting Mills, 138 N. 8th St.; re-equipped plant for making Men's Fine mercerized Half Hose and Knitted Scarfs; formerly made Caps, Toques and Shawls.
Philadelphia. Miller & Sons Co., 53d St. and Westminster Ave.; added 40 latch needle knitters; 18 loopers; make Men's and Women's Fine Lisle and Mercerized hose.
Philadelphia. Reliable Hosiery Co., Front and Lehigh Ave.; added machinery for making Men's High Grade Half Hose; total equipment, 58 knitters.
Philadelphia. Roxboro Hosiery Mills; removal to new quarters, 2011 East Arizona St.; enlarged plant and increased output.
Philadelphia. Standard Hosiery Co.; new mill, 38 by 147 feet, erected; installed spinning plant, 7,000 ring spindles; also picker house, 37 by 40 feet, and boiler house, 53 by 40 feet.
Reading. Berkshire Knitting Mills; new dye house for purpose of doing their dyeing; also added more full fashioned knitting machines.
Slatington. The Slatington Knitting Co., Ltd.; taken over plant formerly run by the K. & K. Knitting Mills.

RHODE ISLAND.

Pawtucket. Lumb Knitting Co.; new building erected, 194 by 98 feet; removed plant from old mill.

SOUTH CAROLINA.

Spartanburg. Crescent Mfg. Co.; new spinning plant installed in the mill.

Walhalla. Oconee Knitting Mill; increased capital stock to $50,000; added 100 more knitting machines.

TENNESSEE.

Clinton. Magnet Knitting Mills; new dye house, 40 by 75 feet, one story, brick; old dye house used for finishing room.

VERMONT.

Bennington. Vermont Hosiery & Machinery Co.; added 40 new machines.

VIRGINIA.

Portsmouth. Parker Hosiery Mill; new knitting mill, 60 by 160 feet, 2 stories; dye house, 40 by 115 feet, 2 stories; boiler and engine house, 50 by 60 feet; equipped with electricity; Bethel Mill discontinued and plant consolidated in above new building.

WISCONSIN.

Milwaukee. Everwear Hosiery Co.; new mill building erected and plant removed to same; added 50 new knitting machines.

SILK.

CANADA.

Ontario. Toronto. Canadian Silk Co., Ltd.; rebuilt plant destroyed by fire; added manufacture of Pull Straps, Non Elastic Webbing and Electrical Tape; absorbed plant of Canada Webbing Co., Ltd.

CONNECTICUT.

Putnam. Hammond, Knowlton & Co.; new boiler house, 48 by 25 feet; new dye house, 110 by 30 with wing 60 by 32.

MASSACHUSETTS.

Holyoke. Skinner, William, Mfg. Co.; new 4-story mill, 60 by 304 feet, under construction; to install 15,000 spindles and 400 looms.

NEW JERSEY.

Hackettstown. Ashley, W. H., Silk Co.; rebuilt plant destroyed by fire and equipped with same amount of machinery.

Netcong. Wm. H. Ashley Silk Co. (Hackettstown); new mill under construction at this place.

Passaic. Gera Mills; installed 150 new looms.

Phillipsburg. Continental Silk Mills, The; new mill erected here; plant at Paterson to be removed here when lease expires.

Wharton. Singleton Silk Mfg. Co.; purchased old Ross Silk Mills at this place and will operate; throwing.

NEW YORK.

Olean. The Feder Silk Throwing Co.; added 5,,000 new spindles.

PENNSYLVANIA.

Philadelphia. Maurer, F. W. & Sons Co.; erected 3-story addition, 99 by 108 feet.

Scranton. Ashley Silk Co.; new addition to plant, 83 by 48 feet; 6,000 new spindles.

Sunbury. Susquehanna Silk Mills; added 200 looms; total of 1,000 looms.

Wilkesbarre. Bamford Bros. (Paterson, N. J.); established branch mill here: Ribbons; J. W. Dawson, superintendent.

Wilkesbarre. Empire Silk Co. (Paterson, N. J.); established branch mill at Woodbury St., near Oxford; Mr. Becker, superintendent: Broad Silks; 48 looms.

RHODE ISLAND.

Central Falls. Waypoyset Mfg. Co.; new addition, 112 by 50 feet, erected to mill building.

VIRGINIA.

Alexandria. Bliss Silk Throwing Co.; added 1,500 new spindles.

MISCELLANEOUS.

KENTUCKY.

Covington. Overman & Schrader Cordage Co., The; added manufacture of all kinds Manila and Sisal Cordage.

MASSACHUSETTS.

Fall River. American Printing Co.; enlarged the power plant; added 10 new boilers, making total of 51; also built new chimney 175 feet high.

Fitchburg. Houghton Web Co.; added 28 new looms.

NEW JERSEY.

Camden. Lees, Henry C.; formerly at Philadelphia; Gas Hose; 30 braiders.

Paterson. Gaede, Robt.; large addition erected, 80 by 140 feet, brick; installed new Hungerford & Terry filter, 120,000 gallons capacity.

Paterson. Kearns Bros., Shady and Wood Sts.; new filter of 1,000,000 gallons installed.

Paterson. Weidmann Silk Dyeing Co.; new dye plant, 400 by 150 feet, 1 story, with new machine shop and boiler house under construction.

NEW YORK.

Chadwicks. Utica Willowvale Bleaching Co.; capital stock increased for new boiler plant installed and new patent brick chimney with complete system to utilize all exhaust.

Newburgh. Newburgh Bleachery; New concrete steel addition erected; mercerizing machinery installed.

PENNSYLVANIA.

Burton Dyeing Co.; equipment installed for Extracting, Printing and Finishing Hosiery; capacity 1,000 dozen per day.

Philadelphia. Ideal Hosiery Printing Co., 125 E. Harmon St.; equipped plant for dyeing hosiery.

Reading. Reading Dyeing Co.; new addition 45 by 70 feet; new machinery installed.

PERSONALS.

Mr. T. H. S. Cone, formerly with the Cannon Mills, has opened an office at 77 Worth St. and will in the future sell cotton yarns as direct mill agent. Mr. Cone has completed arrangements with the Linn Mills Co., of Landis, N. C., and with the Norwood Mfg. Co. of Norwood, N. C., to handle their products. Announcements concerning other accounts will be made after January 1.

In this new venture, Mr. Cone will have the best wishes of former associates and friends and his characteristic ability in this line, combined with full preparation to offer good merchandise and treat customers right, will undoubtedly make for a full measure of success.

The Allis-Chalmers Co. have appointed M. H. Merrill as manager of their New England textile department. He will have an office at 50 Congress St., Boston. For a number of years Mr. Merrill has been in charge of the New England textile business of the Westinghouse Electric Mfg. Co. and during that time has had marked success in making electric installations. His new connection offers a wide field for Mr. Merrill's textile knowledge of power plants and he will handle any kind of power plant installation, including electric, steam or gas.

J. M. Allen has accepted the position as superintendent of the Richmond Hosiery Company, Chattanooga, Tenn. He was formerly employed at the Vermont Hosiery & Machinery Company, Bennington, Vt.

Personals.

J. M. Biddles, formerly overseer of finishing at the Wood Worsted Mills, Lawrence, Mass., has accepted a similar position with the Peace Dale Mfg. Company, Peace Dale, R. I.

James E. Reynolds has accepted the position as designer for the Knoxville Woolen Mills, Knoxville, Tenn. He was formerly employed at C. L. Blanding & Company's Mill, Providence, R. I.

Chas. T. Hirst has accepted the position as overseer of finishing of the night force at the C. A. Root Company, Uxbridge, Mass. He was formerly engaged at the Atlantic Mills, Providence, R. I.

Geo. A. Wilton, designer at the Stevens Mill, North Andover, Mass., for a number of years, has been promoted to a more lucrative position at the Marland Mills, succeeding John C. Plummer.

Joseph Back has accepted a position as master mechanic at the Riverside Mills, Stafford, Conn.

Chas. Cummings, dress tender at the Earnscliffe Mills, Providence, R. I., has been promoted to the position as overseer of the night force in the dressing department.

M. N. Bulford has taken charge of the night force in the bleaching department at the Arnold Print Works, North Adams, Mass.

James Cox, overseer of weaving at the Flint Mills, Fall River, Mass., has resigned to accept a similar position with the Arkwright Mills, Fall River, Mass.

Cornelius Sullivan, overseer of weaving at the Arkwright Mills, Fall River, Mass., has resigned.

Harry Foster has been promoted to the position of general superintendent of the Jamestown Worsted Mills, Jamestown, N. Y.

Albert Ingleson, formerly superintendent of the worsted department of the Lorraine Mfg. Company, Pawtucket, R. I., has accepted the position as superintendent of the Jamestown Worsted Mills, Jamestown, N. Y.

Michael Behan, overseer of the cloth department at the Nottingham Mills, Providence, R. I., has resigned and William Woodrow, overseer of weaving, will take charge of the cloth room in connection with his other duties.

John Gilston has accepted a position as overseer of spinning at the Pierce Mills, New Bedford, Mass., succeeding John Riley.

Ellis Foster, overseer of the spinning department at the Arlington Mills, Lawrence, Mass., for the past eighteen years, has resigned.

Arthur L. Willey, assistant superintendent of the Grant Yarn Company, Fitchburg, Mass., has resigned. His successor is John Duffy, formerly boss spinner at that mill. The position made vacant by Mr. Duffy's promotion has been given to the second hand, Edward Bushey.

Arnold Taylor, second hand of the spooling and warping departments at the Whitman Mills, New Bedford, Mass., has been promoted to the position as overseer of ring spinning.

Peter Fineran has accepted the position as overseer of spinning at the Wanskuck Company, Providence, R. I. He comes from D. Goff & Sons, Pawtucket, R. I.

Geo. E. Morrison of Saco, Me., has been reappointed factory inspector for York County, Me.

Henry M. Harmsen, formerly engineer at the Stanley Woolen Company, Uxbridge, Mass., has taken a position as engineer at a rubber company at North Brookfield, Mass.

Joseph Burgess, overseer of mule spinning at the Taber Mills, New Bedford, Mass., has resigned and his successor is Isaac Heap, formerly second hand at the Bristol Mills.

W. G. Rogers, designer at the Camden Woolen Company, Camden, Me., has severed his connection with that company.

James Pringle was chosen second vice president of the United Textile Workers of America at their convention in Schenectady, N. Y., October 23d. John Golden of Fall River, Mass., was re-elected president.

William J. Kerwin, superintendent of the Beacon Mfg. Company, New Bedford, Mass., was presented with a companion chair, a reading lamp and smoker by the overseers under his employ, the occasion being his fifteenth wedding anniversary.

J. F. Hamel has accepted the position as general second hand of the carding department at the B. B. & R. Knight Mills, Natick, R. I. He was formerly at the Hebron Mills, Hebronville, Mass.

Edward Nelson, superintendent of the W. M. Sharp Company, Binghamton, N. Y., has severed his connection with that company and returned to his home at Lowell, Mass.

Geo. Wright, master mechanic at the Shetucket Company, Norwich, Conn., has severed his connection with that company.

Harold Pierce, bookkeeper at the Faulkner Mills, Stafford Springs, Conn., has resigned. His successor is Wm. Hanley, of Orcottville, Conn.

Thomas H. Broderick has accepted the position as overseer of burling and sewing at the Sutton Mills, North Andover, Mass.

Edward Templeton, overseer of finishing at the Talcott Bros., Talcottville, Conn., and Miss Charlotte C. Frey were married in Broad Brook, Conn., recently

Joseph Tattersall, overseer of weaving at the Fiskdale Mills Company, Fiskdale, Mass., has resigned.

Christopher Gilligan, bookkeeper at the Danielson Cotton Company, Danielson, Conn., has severed his connection to accept a position at Versailles.

A. J. Cox, overseer of spinning at the French River Textile Company, Mechanicsville, Conn., has severed his connection with that company.

A. Reid, formerly of Kansas City, has been engaged as boss weaver at the Western Woolen Mills Company, Topeka, Kas.

George M. Brewer has accepted the position as office manager for Chas. Chipman's Sons, Easton, Pa. He was formerly in the employ of Wm. F. Taubel, Riverside, N. J.

John Battye, formerly of the Oakland Woolen Company, Oakland, Me., has accepted the position as overseer of dyeing at the Sutton Mills, North Andover, Mass., succeeding Wm. McKinnon.

John Werner, superintendent of the Broad Woolen Company, Broad Brook, Conn., has severed his connection with that company. He has been connected with this mill for fifteen years, the last three of which he has held the position as superintendent.

Hector McConnell, for a number of years paymaster at the Totokett Mill, Occum, Conn., has severed his connection with that company to accept the superintendency of the Danielson Cotton Company, Danielson, Conn. He was presented with a number of valuable cut glass articles by the help employed at the Totokett Mill, presentation speech being made by C. W. Perkins, the superintendent.

Frederick Topliff has accepted the position as paymaster of the Totokett Mill, Occum, Conn., succeeding Hector McConnell. He comes from Wauregan, Conn.

E. L. Bridges succeeds J. C. Cole as overseer of the slashing room at the Hartsville Cotton Mills, Hartsville, S. C.

George F. Shipp has accepted a position as superintendent of a mill at Tifton, Ga.

J. V. Thompason, overseer of weaving at the Glenn-Lowry Cotton Mills, Whitmire, S. C., has resigned and now represents the Skipper Sizing Company as traveling agent, Chester, S. C.

J. C. Finley has accepted a position as overseer of weaving at the Fountain Inn Mfg. Company, Fountain Inn, S. C. He will have charge of the Draper looms.

John E. Shaw has re-entered the employ of the Steele's Mill, Rockingham, N. C., as overseer of weaving.

Cecil J. Joyner has accepted a position with the Oconee Knitting Mills, Walhalla, S. C. He comes from Des Moines, Ia.

Daniel Schofield has accepted a position as overseer of carding at the Jackson Fibre Company, Bemis, Tenn. He was formerly employed at New Orleans, La.

S. L. McClure, overseer of carding and spinning at the Magnolia Mills, Charlotte, N. C., has resigned to accept a similar position at Landis, N. C.

J. F. Knight has accepted the position as overseer of carding at the Fidelity Mills, Charlotte, N. C.

C. J. Gault has accepted a position as overseer of spinning at the Highland Park Mill No. 1, Charlotte, N. C. He comes from the Loray Mills, Gastonia, N. C.

Albert Louisfell, overseer of weaving at the Boott Mills, Lowell, Mass., has accepted a similar position with the Otic Company of Ware, Mass., succeeding the late Geo. Robertson.

John R. Marjerison has severed his connection with F. A. Straus & Company, Trenton, N. J., as overseer of spinning to accept a position he formerly held with the Arlington Mills, Lawrence, Mass.

B. W. Washburn, overseer of dyeing at the Merrimack Woolen Company, Lowell, Mass., has severed his connection with that company.

William McKinnon, overseer of dyeing at the Sutton Mills, North Andover, Mass., has severed his connection with that company to accept a similar position with the Merrimack Woolen Company, Lowell, Mass., succeeding B. W. Washburn.

Thomas Smith, overseer of weaving at the Knoxville Woolen Mills, Knoxville, Tenn., has severed his connection with that company.

L. H. Love has accepted a position as overseer of weaving at the Knoxville Woolen Mills, Knoxville, Tenn. He was formerly employed at the Montrose Woolen Company, Woonsocket, R. I.

John Leonard has accepted the position as overseer of dyeing at the Oakland Woolen Company, Oakland, Me. Was formerly employed at Amos Abbott & Company, Dexter, Me.

James Riley, second hand in the wet finishing department at the Madison Woolen Company, Madison, Me., has resigned and accepted a position in charge of the gigging department at the Wood Worsted Mills, Lawrence, Mass.

Jos. E. Pike, assistant superintendent and designer of the Mayo Woolen Company, Millbury, Mass., has severed his connection with that company and it is reported has taken a position with Cyrus G. Wood & Company, Quinapoxet, Mass.

Charles R. Newton has accepted the position as assistant superintendent and designer at the Mayo Woolen Company, Millbury, Mass. He was formerly employed at the Ray Mills, American Woolen Co., Franklin, Mass.

G. W. Fields has accepted the position as superintendent of the Dexter, Richards & Son Company, Sugar River Mill, Newport, N. H. He comes from Monson, Mass.

David McIlvane has accepted a position in the finishing department of the Cheney Bros. Mill at South Manchester, Conn. He formerly held a position as second hand in the finishing department at the Assawaga Company, Dayville, Conn.

E. Alden Beers, for a number of years employed at the Bristol Mfg. Company, Bristol, Conn., has resigned and will accept a position at New Haven.

A. G. Sault has severed his connection with the Riverside Woolen Mills, Stafford Springs, Conn., as overseer of weaving to accept a similar position at Byfield, Mass.

George Foley, overseer of spinning at the Winsted Silk Company, Winsted, Conn., has resigned to accept a more lucrative position with the Hammond & Knowlton Company, Putnam, Conn.

William T. Godfrey, for several years second hand of the combing department at the Washington Mills, Lawrence, Mass., has resigned to accept a position as overseer at the Cleveland Worsted Company, Cleveland, Ohio.

Michael Eno has accepted the position as overseer of weaving at the Fiskdale Mills Company, Fiskdale, Mass., succeeding Jos. Tattersall.

Roy Sykes, assistant dyer at the Puritan Mills, American Woolen Company, Plymouth, Mass., has resigned. His successor is Clarence Cutler of the Wood Worsted Mills, Lawrence, Mass.

Edward Clegg has taken charge of ring spinning at the Dwight Mfg. Company, Chicopee, Mass.

John McKemmie, overseer of carding at the Indian Orchard Company, Indian Orchard, Mass., has severed his connection with that company.

Joseph Miller, overseer of carding at the Morrison Woolen Company, Dexter, Me., has resigned to accept a similar position with the Amos Abbott Company, same town.

Edward Hines, formerly overseer of weaving at the Saranac Mills, Blackstone, Mass., has accepted a similar position at the Montrose Woolen Company, Woonsocket, R. I.

John J. Kelly has accepted the position as overseer of twisting for the J. L. & T. D. Peck Mfg. Company, Pittsfield, Mass., in their thread mill. Dennis Ryan has accepted a position as overseer of ring spinning for the same company.

Fred Jackson of the Burlington Mills, Winooski, Vt., has accepted the position as overseer of dyeing at the Rosemont Dyeing Company, Woonsocket, R. I.

W. B. Morgan, formerly overseer of weaving at the Odell Mills, Concord, N. C., has accepted a similar position at the Manetta Mills, Lando, S. C., succeeding D. D. Perry.

M. L. Jonas has accepted the position as master mechanic at Yorkville, S. C.

W. M. Abernathy has accepted the position as overseer of carding and spinning at the Magnolia Mills, Charlotte, N. C. He was formerly employed at the Lula Mill, King's Mountain, N. C.

George S. Payne, overseer of spinning at the Queen City Cotton Mills, Burlington, Vt., has been promoted to the position of superintendent to succeed Winthrop Parker.

Wm. Illingsworth, several years overseer of spinning at he Franklin Yarn Company, Franklin, Mass., has resigned to accept a position as assistant superintendent of the Saugus Mfg. Company, Saugus, Mass.

R. A. Cook, treasurer of the Queen City Cotton Mills, Burlington, Vt., gave a banquet at the Van Ness House to the overseers of the mill in honor of G. S. Payne, the new superintendent.

John F. McGuire, for a number of years overseer of the cloth room at the Royal Mill, Riverpoint, R. I., has severed his connection with that company. His successor is Daniel Key of Central Falls, R. I., who was formerly employed at the Pontiac Mills.

C. A. Williamson has accepted the position as overseer of finishing at Fairbanks & Dorr, Guild, N. H. He comes from Hartford, Vt.

Albert Hughes has accepted a position as loom fixer for the Saugus Mfg. Company, Saugus, Mass. He comes from Norwichtown, Conn.

Sidney H. Little, styler for the Woskanut Mill, Farnumsville, Mass., has severed his connection with that company to accept a more responsible position as superintendent of C. A. Root & Company, Uxbridge, Mass.

Henry L. Stewart, overseer of finishing at the Bay State Worsted Company, Worcester, Mass. has severed his connection with that company to accept a similar position with the Belle Vue Mills, Clinton, Mass.

Harry Whalen has accepted a position as designer at the Woskanut Mills, Farnumsville, Mass., a position he held some time ago. He comes from Charlton City, Mass.

Charles H. Fish, for fifteen years agent of the Cocheco Mfg. Company, Dover, N. H., has tendered his resignation to the board of directors. He is one of the best known textile mill men in this section of the country.

It is reported that Chas. H. Fish, who recently tendered his resignation to the directors of the Cocheco Mfg. Company, Dover, N. H., may take the position of general manager of the cotton mills owned and operated by B. B. & R. Knight of Providence.

Stephen McKenna has accepted the position as assistant designer at the Livingston Worsted Company, Washington, R. I. He is a graduate of the Philadelphia Textile School.

Robert Lindsey, head dyer at the Southbridge Printing Company, Southbridge, Mass., has severed his connection with that company to accept a similar position with the U. S. Finishing Company, Silver Spring Branch, Providence, R. I.

James H. Quinn, overseer of burling and sewing at the Sutton Mills, North Andover, Mass., has severed his connection with that company. The vacancy has been filled by Thomas H. Broderick.

James F. Reed, overseer of ring spinning at the Great Falls Mfg. Company, Somersworth, N. H., has severed his connection with that company. His successor is Andrew Martin, formerly at the Warren Cotton Mills, West Warren, Mass.

J. H. Lord, late superintendent of the Seneca Falls Woolen Company, Seneca Falls, N. Y., has accepted a position as superintendent of the Wassookeag Woolen Company, Dexter, Me.

Henry Rowe, superintendent of the Elk Mountain Bleachery, Asheville, N. C., has resigned to accept a position with the Cannon Mills, Kannapolis, N. C. Mr. Rowe has been superintendent of the Elk Mountain Bleachery since it was first built.

John Sandy, master mechanic at the R. I. Worsted Company, Stafford Springs, Conn., has resigned.

Clark Faulkner has accepted a position as overseer of carding at the Hudson River Woolen Mills, Newburgh, N. Y. He was formerly employed at the Vassalboro Mills, North Vassalboro, Me.

Stephen L. Duffy, overseer of finishing at the Huntington Mfg. Company, Huntington, Mass., has resigned. His successor is John A. Heaton, previously employed at the Granite Woolen Company, West Swanzey, N. H.

Joseph Butler, overseer of finishing at the Litchfield Worsted Mills, Clinton, Mass., has accepted a temporary position at Stafford Springs, Conn.

Arthur Firth has accepted a position as overseer of carding at the New York Mills, New York Mills, N. Y. He comes from Fall River, Mass.

Geo. Heaton has accepted a position as boss dyer at the Huntington Mfg. Company, Huntington, Mass. He comes from Montville, Conn.

R. K. McCuen is now superintendent of the Pendleton Cotton Mills, Pendleton, S. C.

D. C. Whittle has been promoted from the position as overseer of weaving to assistant superintendent of the Eastman Cotton Mills, Eastman, Ga.

D. F. Harwell has accepted the position as overseer of carding at the Whitaker Mills, Blacksburg, S. C. He comes from the Delburg Mills, Davidson, N. C.

Chas. Davis has accepted a position as overseer of carding in mills No. 1 and 2, Lando, S. C. He comes from Bessemer City, N. C., and succeeds Charles T. Redmon.

A. J. Weeks has accepted a position as overseer of dressing at the Greenville Woolen Mills, Greenville, R. I. He was formerly employed at Nasonville, R. I.

Clarence Stone, overseer of weaving at the Hill Mfg. Company, No. 2 mill, Lewiston, Me., has severed his connection with that company to accept a similar position with the Barker Mill, Auburn, Me. He was presented with a solid gold chain by the help employed in that department.

*Rhode Island, Providence. The Glenwood Mfg. Co. has been incorporated with capital stock of $125,000 by Moses T. Farnum, Charles W. Greene and John H. Flannigan. According to the articles, the new company has been organized for the manufacture of cotton and woolen cloths, linens, jutes, shoddies, cotton and wool batting, etc. It is stated that the industry will be located at this place. Mr. Moses R. Farnum, one of the incorporators, is a shoddy manufacturer at Wrentham, Mass.

Rhode Island, Woonsocket. It is reported that obstacles in the way of the reorganization of the River Spinning Co. have been removed and plans will be speedily carried out.

South Carolina, Greeleyville. The forming of a new company to build and operate a cotton mill at this place has been reported. C. W. Boyle heads the project.

South Carolina, Spartanburg. Ben. W. Montgomery, assistant treasurer of the Pacolet Mfg. Co., Pacolet, S. C., is reported to have bought the interest in the Crescent Mfg. Co. of this place, held by D D. Little, president of the company.

Texas, Fort Worth. Interest in a cotton mill has been revived by Fred. H. White of Charlotte, N. C., who has plans for a blue denim mill, with $250,000 capital stock.

Texas, Gonzales. It is reported that the Gonzales Cotton Mills will be reorganized shortly and the plant greatly enlarged. The mill has been shut down for a number of months.

Vermont, Hartford. H. P. Hazen is interested in a project for operating two looms on piece dye worsteds. Mr. Hazen would like to get in touch with a selling agent to handle the product of the plant.

Frederick R. Pratt has accepted a position as master mechanic at the Shetucket Company, Norwich, Conn. He was formerly employed at the Grant Yarn Company, Fitchburg, Mass.

John Howard has accepted a position as overseer of weaving at the Deavitt Mfg. Company, Lowell, Mass., a new concern recently started manufacturing worsted men's wear. He was formerly employed at the Belvidere Woolen Company, Lowell.

Arthur W. Loun, assistant superintendent at the No. 1 Hargraves Mill, Fall River, Mass., has severed his connection with that company to accept a position as superintendent of the Bibb Mfg. Company, Macon, Ga.

John Winterbottom, second hand in the dressing and spooling department of the Geo. H. Gilbert Mfg. Company, Ware, Mass., for the past six years, has severed his connection with that company to accept a position in the dressing department at the Sawyer Mills, Dover, N. H.

Frank Bowker, who has been employed at the Scotia Worsted Mills, Woonsocket, R. I., learning the manufacturing business, will enter the commission house of this company in New York, December 1st.

Geo. Walker, for a number of years designer at the Endurance Mill, John Carruth & Company, has severed his connection with that company in order to give more attention to the business of A. J. Gordon & Company, manufacturers of cotton worsteds. Phillip Lindsay succeeds him at the Endurance Mill.

James Daley, general manager of the John N. Stearns Company's silk mill at Williamsport, Pa., has severed his connection with that firm. The vacancy has been filled by W. R. Hoehm, who comes from Elmira, N. Y.

Fred C. Whittier, overseer of the cloth department of the Massachusetts Cotton Mills, Lowell, Mass., has severed his connection with that company. He goes to the U. S. Finishing Company, Silver Spring branch, Providence, R. I., and was presented with a solid gold monogram shirt set and a beautiful marble clock by the help employed in that department.

Hon. Arthur H. Lowe, president of the Lancaster Mills, Clinton, Mass., was tendered a banquet by the overseers and second hands employed in the Lancaster Mills, November 15. Addresses were made by James A. Morgan, paymaster; A. G. Hosmer, superintendent; Dexter Stevens, H. D. Martin, and F. C. F. Jackson.

John C. Phillips, for the past eight months overseer of carding at the Queen City Cotton Mills, Burlington, Vt., has resigned to accept a position as superintendent of the Wauregan Mills, Wauregan, Conn., a position made vacant by the promotion of J. Walter Atwood to the position of agent.

George Schofield, agent of the Moosup Mill, American Woolen Company, Moosup, Conn., is to sever his connection with the American Woolen Company to take effect January 1. He has been agent of the Moosup Mills for the past three years and during his stay the pleasantest relations have existed between him and his employes. He is to accept a similar position elsewhere.

H. S. Larned, for the past twenty-two years general manager of the Standard Silk Company, Easton, Pa., has severed his connection with that company. He has seen the plant grow from its infancy and has been very active in town affairs.

James A. Cook, overseer of the mule spinning department at the Continental Mills, Lewiston, Me., for a number of years, has severed his connection with that company. He was presented with a gold watch and Shriner pin by the employes of the spinning department.

Arthur Peterson has accepted a position as overseer of dyeing at the Cheshire Mills, Harrisville, N. H. He comes from the Hadley Mills, South Hadley Falls, Mass.

Fred Sault has accepted a position as overseer of weaving at the Faulkner Mills, Stafford Springs, Conn. He had recently accepted a position at the Byfield Woolen Company, Byfield, Mass.

John Mulligan, overseer of weaving at the Faulkner Mills, Stafford Springs, Conn., has severed his connection with that company.

B. W. Washburn has accepted a position as overseer of dyeing at the R. I. Worsted Company, Stafford Springs, Conn. He comes from the Merrimack Woolen Company, Lowell, Mass.

Chas. McQueen, overseer of spinning at the Woodside Mills, Greenville, S. C., has resigned to accept a similar position with the Glen-Lowry Mfg. Company, Whitmire, S. C.

R. J. Belue has accepted a position as overseer of spinning at the Woodside Mills, Greenville, S. C. He comes from Spartanburg, S. C.

R. R. McCraw has accepted a position as overseer of weaving at the Poulan Cotton Mills, Poulan, Ga. He was formerly employed at Reidsville, N. C.

G. W. Green has accepted a position as overseer of spinning, spooling and warping at the Courtenay Mfg. Company, Newry, S. C. He was formerly employed at the Cherry Cotton Mills, Florence, Ala.

W. P. Pender has accepted a position as master mechanic at the Lane Cotton Mills, New Orleans, La. He was formerly employed at Gonzales, Tex.

W. M. Keller has been promoted to the position as overseer of carding at the Lulu Cotton Mills, King's Mountain, N. C.

R. H. Bersbee has accepted a position as overseer of weaving at the Brookside Mills, Knoxville, Tenn.

G. H. Riddle has been promoted to the position as overseer of weaving at the Rhode Island Mill, Spray, N. C.

John Stevens has accepted a position as superintendent of the Wehadkee Yarn Mill, Rock Mills, Ala. He was formerly employed at Pelham, Ga.

Geo. Hill has accepted the position as overseer of carding and spinning at the Capps Mill, Toccoa, Ga.

A. B. Peterson, overseer of spinning, spooling and warping at the Courtenay Mfg. Company, Newry, S. C., has resigned.

S. M. Butler, overseer of weaving the past four years at the Sibley Mills, Augusta, Ga., has accepted a similar position with the Springstein Mills, Chester, S. C.

A. V. Brannon from the Aetna Mills, Union, S. C., has accepted a position as boss weaver at the Mills Mfg. Company, Greenville, S. C.

S. P. Kohn has accepted a position as overseer of carding at the Camperdown Mills, Greenville, S. C. He was formerly employed at the Aetna Mills, Union, S. C.

W. F. Hatton has accepted a position as overseer of carding at the Pelham Mfg. Company, Pelham, Ga.

Lewis Barker, agent of the U. S. Cotton Company, Central Falls, R. I., for a number of years, has resigned. He is succeeded by David Groves, who has been superintendent of this mill for a number of years.

Charles Atridge has taken the position as overseer of dyeing at the William Tinkham Company, Harrisville, R. I. He was formerly employed at the Wanskuck Company, Providence, R. I., as general second hand.

John McGrath, second hand in the carding department at the White Rock Mills, White Rock, R. I., has been appointed overseer to succeed George P. Kean, who recently resigned.

Harry Ingleson has accepted a position as overseer of drawing at the Lynndon Worsted Mills, Falconer, N. Y. He was formerly employed at the Atlantic Mills, Providence, R. I.

Chas. W. Russell, master mechanic at the Arlington Mills, Lawrence, Mass., has resigned.

William Northrop, boss wool sorter at the Peace Dale Mfg. Company, Peace Dale, R. I., has severed his connection with that company.

Clarence W. Elliott has accepted a position as overseer of finishing at the Racine Woolen Mills, Racine, Wis. He comes from the Cocheco Mfg. Company, East Rochester, N. H.

Taylor Hilton has accepted a position as second hand in the mule spinning department at the Nurse Mills, Woonsocket, R. I. He was formerely employed at the Bernon Mills, Georgiaville, R. I.

William Kirby, second hand in the spinning department at the Ray Mills, Franklin, Mass., has been promoted to the position of overseer.

Frank A. Hale has accepted a position as overseer of weaving at the Royal River Mfg. Company, Yarmouth, Me. He was formerly employed at the W. H. Winslow Company, Portland, Me.

John D. Smith, assistant appraiser for George W. Wanmaker, has tendered his resignation to the president to take effect November 30th. He resigns to accept a place with the National Ribbon Company of New York City, a concern operating silk mills at various points.

Wm. Oldham has accepted a position as overseer of finishing for Fairbanks & Dorr, Granite State Mills, Guild, N. H. He comes from North Vassalboro, Me.

Martin O'Toole has accepted a position as overseer of finishing at the Namquit Worsted Mills, Bristol, R. I. He was formerly employed at the Scotia Worsted Mills, Woonsocket, R. I.

E. S. Boss, resident agent of the American Thread Company, Willimantic, Conn., was tendered a banquet in New York in recognition of his completion of fifty years in the employ of the company.

F. E. Chasteen has accepted a position as overseer of spinning, spooling and twisting at the Cherry Cotton Mills, Florence, Ala., succeeding Geo. W. Green.

John E. Sayles, who formerly held the management of the Rivulet Mill, Uxbridge, Mass., but later purchased Hotel Windsor in the center of the town, celebrated his twenty-fifth anniversary on Saturday, November 21st.

P. D. Wade has accepted a position as superintendent of the Greenwood Cotton Mills, Greenwood, S. C. He was formerly employed at the Pelzer Mfg. Company, Pelzer, S. C.

W. M. Naborns has accepted a position as overseer of carding at the Jackson Mill, Iva, S. C. He comes from the Asheville Mills, Asheville, N. C.

T. M. Hunt has accepted a position as overseer of weaving, spooling, warping and slashing for the Ella Mfg. Company, Shelby, N. C.

DEATHS.

Robert Mellody, an expert thread man who had been employed at the Hadley Mills, Holyoke, Mass., for a number of years, died at his home at 16 Bridge St., October 22, as a result of internal injuries sustained in falling from an electric car. The funeral was held at Willimantic, Conn.

Kirk H. Leavens, 74 years of age, a retired cotton manufacturer and a member of the state sculptor commission, died at his home in Norwich, Conn, after a brief illness.

Geo. W. W. Dove died at his home at Andover, Mass. The town loses one of the oldest residents and also a pioneer manufacturer. He was the founder and president of the firm of Smith & Dove, and was born at Andover in 1835. He had retired from active business some years ago and had taken an interest in town affairs up to the time of his death.

Henry Phelps Perkins, for many years a representative of the Lowell Bleachery Company, Lowell, Mass., and a resident of Lowell, died at the Massachusetts General Hospital in Boston, having received injuries by being struck by an express train at Wilmington, Mass. He leaves a wife, one daughter and four sons.

Geo. Robertson, overseer of weaving at the Otis Company, Ware, Mass., died at his home in that place November 3d of paralysis of the spine. He had been ailing for some time and his death caused sorrow among the employes of the Otis Company as he was a man highly respected.

Thomas McMurray, for many years manager of the Barbour Thread & Flax Company, New York City, died recently of apoplexy at his home, 672 Carroll St., Brooklyn, N. Y., in his sixty-fifth year. He leaves a widow, three daughters and three sons.

William A. Mitchell, general salesman for the H. B. Claflin Company, New York City, died suddenly as the result of an apoplectic attack. He had been connected with the company since 1874.

T. W. Markley, for a number of years associated with Geo. E. Kunhardt, Lawrence, Mass., manufacturer of woolen goods, died at his home in Plainfield, N. J., in his forty-eighth year of pneumonia. Mr. Markley covered Boston, Philadelphia, Baltimore and other cities in the interest of his employer.

A. S. Fletcher, vice president of the Huntsville Cotton Mills, Huntsville, Ala., died at his home in that city October 21st. He was a native of Virginia and had resided in Huntsville nearly all his life. Several times he represented Alabama in the Legislature and had also served as alderman for the city a number of times.

James C. Pratt, superintendent of the Sibley Cotton Mfg. Company, Augusta, Ga., died at his home in that city at the age of 60 years. He was one of the best known citizens in Augusta and had been employed for twenty-four years by the Sibley Mfg. Company.

Eleazer Giles Lemon, a well known woolen merchant of New York City, died suddenly at his

home, 214 West Ninety-second St. He was born in Andover, Mass., in 1847 and for twenty-five years was the New York representative of the Sawyer Woolen Mills, Dover, N. H. Was also one of the oldest members of the New York Athletic Club and a member of its Board of Governors. He is survived by a widow.

Edmond Bickell, one of the oldest residents of Dexter, Me., died Saturday, October 31st, at his home on the Charleston road, after a short illness. He was born in England over eighty years ago. Mr. Bickell was employed in woolen mills for a number of years.

William Edward Henry Donovan, of the firm of C. Moore & Company, manufacturers of jacquard, harness twine and linen yarns, 500 Market St., Philadelphia, Pa., died in that city of heart failure recently.

George R. Stockwell, a member of the retired firm of the woolen goods commission house of Jacob Wendel & Company, New York City, died at his home in Brooklyn, N. Y., at the age of 73 years.

Willis Henry Gerrish, superintendent of the Allendale Woolen Mills, Spencer, Mass., died at his residence, corner May and Irving Sts., after an eight weeks' illness of Bright's disease. Mr. Gerrish came to Spencer from Jefferson about three years ago where he held the position as superintendent of the Jefferson Mfg. Company a number of years and is survived by a wife and two children.

B. Dickson Armstrong, who was auditor for the Southern Cotton Association up to the time of their last meeting, which was held in 1907, died at Auburn, Ala., at the age of 51 years.

Charles H. Foss, for forty years connected with the Methuen Company's Mill, Methuen, Mass., died at his home on Railroad St. He had suffered a shock several months ago. His duty was master mechanic at the mill. He was born May 29, 1850.

Richard Hill, a pioneer in the thread business in America, died at his home in Kerney, N. J., of heart disease at the age of 71 years. He came to this country in 1865.

Dutee J. Pierce died at his home on Chauncy St., Mansfield, Mass., after being in feeble health for a year. He was 75 years old and was identified with cotton manufacturers in the West, Providence, R. I., and vicinity.

H. A. Warburton, founder of the New England Thread Company, Pawtucket, R. I., died at his home in that city November 3 while reading the evening paper. He was 71 years of age and became superintendent of the Stafford & Company, thread manufacturers, in 1886. Years later he established the New England Thread Company. He leaves a widow and three children.

G. J. Bolin, assistant superintendent at the Eastman Cotton Mills, Eastman, Ga., was accidentally killed October 27th by falling through a scaffold and breaking his neck. His wife and one daughter survive him.

Hon. Franklin W. Russell, president of the woolen manufacturing firm of S. N. & C. Russell, Pittsfield, Mass., and a member of the Governor's Council, died at his home in that city of heart failure after an illness of three weeks. He was born in Pittsfield in 1841, educated in the public schools there and at Williston Academy, Easthampton. When a young man he went to New York and engaged in business, afterwards returning to Pittsfield in 1895. He was serving his second term in the Governor's Council at the time of his death. Was also a director of the Third National Bank and the Berkshire Life Insurance Company. He is survived by a sister and brother.

James Buckingham, one of the best known citizens and manufacturers of Zanesville, O., and owner of the Zanesville Woolen Mills, died shortly after he had stepped off an express train following a visit to Columbus, O. He was 75 years of age and leaves a widow and several children.

Theodore S. Baron died at his home, 111 West 88th St., Manhattan, N. Y., from an overdose of morphine. For years he and his father, Samuel Baron, carried on a knit goods business on Clymer St., and had erected a large factory on Waith Ave. He was 44 years of age and leaves a wife and one daughter.

J. C. Platt, for twenty years superintendent of the Sibley Mills, Augusta, Ga., died at his home in that city October 22 in his 60th year.

Channing Fairbanks, actively identified with the Boston wool trade for many years, died at his home in West Medford, Mass., at the age of 48 years.

Thomas McMurray, head of the order department for the Linen Thread Company, New York City, died at his home, 672 Carroll St., Brooklyn, N. Y., October 29th.

John W. Wolfenden, a prominent business man and a leading citizen of Attleboro, Mass., also a partner of the firm of R. Wolfenden & Sons, dyers and bleachers, Attleboro, Mass., died while seated in a barber chair in one of the barber shops in Attleboro cecently. He was 57 years of age and leaves a wife, one son and a daughter.

Wm. H. Hartley, instructor in designing at the Textile School, Fall River, Mass., died at his home on High Street in that city after a few days' illness. He had been connected with the school for a number of years and was regarded as a very competent teacher.

Geo. Lang died at his home in Rochdale, Mass. He was a pioneer dyer and held positions in several leading mills. He was 70 years of age.

New Publications.

[Any work noticed under this head can be obtained through the office of this journal.]

Methods of Textile Chemistry; by Frederic Dannerth, Ph. D.; 144 pages, 5 by 7 1/2; John Wiley & Sons, New York; price, $2.00.

The author's object in compiling this work was to give in a concise and systematic form data and information that can now be found only in numerous widely distributed books and journals. Part 1 deals with the reactions of fibers and methods of distinguishing them; Part 2 is devoted to the quantitive analysis of fibers and fabrics; Part 3, materials, processes and products; Part 4 is a glossary of textile terms. The value of the book is impaired by a confusion of weights and measures caused by the use of metric units. Such use, which is justifiable in the chemical sections, serves only to confuse an American reader when used for other branches of textile work. This feature has made some portions of the book valueless. An illustration of this is found in the rule laid down for determining the ounces per yard of cloth, which is to multiply the grams per meter by .0295. The section dealing with wool shrinkages supplies another example of the confusion. Here we find pounds in one paragraph and grams in another. Regardless of what may be said for one system or the other, there can be no excuse for forcing the reader to use both systems. Under the head of yarn counts the author makes a curious mistake regarding the numbering of silk. He states that "the unit of the international silk skein (legal in France) is 500 meters in length and weighs .05 gram. This is known as one denier. A silk skein marked 20 deniers would then contain 500 meters and would weigh 20 × .05 or 1.0 grams." The 500 meter and .05 gram standard is not used in the silk trade anywhere, not even in France where it is "legal." It has never been known as the denier. The denier standard is the weight in deniers of 400 ounces, and this is the single world standard for raw silk.

The object of the book is excellent, as the trade unquestionably needs a concise handbook in which the data bearing on textile chemistry is arranged for quick reference.

Cotton Movement and Fluctuation; by Latham Alexander & Co., New York.

The 35th edition of this publication has been carefully revised to bring it up-to-date. It includes all of the valuable features that have appeared in preceding editions. They are to begin with a number of articles on different phases of the cotton question. These are followed by elaborate tables showing the fluctuations of cotton prices during a series of years, the sizes of crops, receipts at American ports, movement of cotton at interior points, visible supply, dates of earliest killing frosts, the United States ginning reports, consumption in American mills, general statistics of the American cotton trade for 50 years, fluctuations of futures at Liverpool, movement of cotton in Europe and cotton deliveries to spinners; the whole forming a very useful handbook for all interested in the cotton trade.

The Aniline Colors and Their Manufacture; by Dr. K. Heumann; 4th part by Dr. Gustav Schultz of the Royal Technical College of Munich; Friedrich Vieweg & Son, Braunschweig. Germany; price, $30.

The fourth part of this elaborate work consists of 3 large volumes of 2,595 pages, the text being in German. The work is a treatise on the chemical composition and manufacture of aniline dyestuffs and is intended for the chemist of artificial dye works and for the investigator in this field. The lack of that industry in this country makes the work of value to but few chemists in the United States, a regrettable fact for which our imperfect laws are responsible. At present our patent laws protect the German industry and suppress the American industry. Until adequate protection is provided for the dyestuff and chemical industry such works as this by Heumann and Schultz will be in demand in foreign countries only. The students of American technical colleges will find at home no opportunities in this branch of the chemical industry, which will be carried on in countries like Germany, France and England, which require the working of inventions in return for the monopoly afforded by a patent.

Jute in Bengal; by N. C. Chandhury; Majumdar Library, 20 Cornwallis St., Calcutta, India.

The author of this book had in writing it the advantage of both a theoretical and practical training, having graduated from the Agricultural College at Sibpur and served as traveling inspector for the Bengal Agricultural Department. He begins by answering three objections to the raising of jute: First, that it is responsible for the famine; second, that it causes malarial fever; third, that it makes the ryots extravagant. There is an historical sketch of the jute industry, followed by an account of the different grades of jute. Part 2 deals with the cultivation of jute; Part 3, with the jute trade; Part 4 is a collection of official documents relating to jute; Part 5 supplies miscellaneous data bearing on jute cultivation.

Business Literature.

The Crescent Oil Engine; Samuel L. Moore & Sons, Elizabethport, N. J.

This is an illustrated description of an oil engine which has been in successful operation in a large number of plants. The claims for this engine are perfect combustion, close regulation, economy of fuel, simplicity of parts and positive ignition.

Hydro-Extractors; Tolhurst Machine Works, Troy, N. Y.

A leaflet calling the attention of textile manufacturers to the importance of making necessary repairs to their plants at such a time as the present, when trade is quiet. Among these repairs is the renewal of hydro-extractors and ventilating fans, the manufacture of which is the specialty of the Tolhurst Machine Works.

Re-Inforced Concrete in Factory Construction.

The Atlas Portland Cement Co. has performed a real service to manufacturers in publishing a book entitled "Re-Inforced Concrete in Factory Construction." It has been prepared by a consulting engineer, Sanford E. Thompson, whose experience amply qualifies him to treat on the subject as an expert authority.

The subject of re-inforced concrete construction has been so widely discussed that no manufacturer who contemplates a new building or extension will overlook a careful investigation of the advantages and limitations of the material as adapted to factory construction. Re-inforced concrete has provided for the manufacturer a new building material. Indestructible, economical and fireproof, it affords, under most conditions, many features of advantage over other types of construction. The development has naturally been greatest in the larger centers of population, but it has extended rapidly to the remoter districts; indeed, wherever new buildings are contemplated.

This widespread interest has emphasized the need of an authoritative reference work on the subject and the publishers of this book, although of course directly interested in the product, being the largest manufacturers of cement in the world, have risen to the opportunity and presented to the manufacturer and also to the architect and engineer who are not concrete specialists, a valuable treatise on re-inforced concrete for factory construction, covering all phases of the subject, giving all facts, figures, plans and specifications which their experience with the best work of the best specialists has enabled them to gain.

This book is a sequel to the former publications of the company, "Concrete Construction about the Home and on the Farm" and "Concrete Country Residences." We understand that these books are so well thought of and have covered the subject so thoroughly that they are used as reference books in some of the engineering schools. It is profusely illustrated and handsomely printed. While the edition lasts, factory owners and those interested in the subject may obtain a copy without cost by writing to Mr. P. Austin Tomes, of the Atlas Portland Cement Co., 30 Broad St., New York, and mentioning the Textile World Record. It is well worth having.

The New Brunswick Chemical Co.

An American branch of the well known firm of R. Bernheim, Pfersee-Augsburg, Germany, has been established at New Brunswick, N. J., under the name of the New Brunswick Chemical Co. The products of the new company will be sizing, finishing and filling materials for cotton, woolen, worsted, silk and linen goods. They will also manufacture for the trade soluble, Turkey red and lustering oils. One of their special products is known as "Guminat" and is extensively used in finishing textiles. It will be the aim of the American branch to maintain the high reputation of the parent company.

Old Business Changes Hands.

The business of the late John Dickinson, established in 1796, and which for the past eleven years has been carried on by his estate, has been purchased by his son, Thomas L. Dickinson.

John Dickinson was the first man to make special shaped diamond points for turning paper calender rolls, etc. His long experience and knowledge of the business in which he was engaged gave him a reputation second to none. Thomas L. Dickinson learned the trade with his father twenty-five years ago, but started on his own account in 1892. His business has prospered and grown right from the very beginning, and now, with that of his father, places him in a class by himself for the kind of goods he manufactures. He has established an agency in London, and besides supplying the best mills in this country with his diamond points he is sending them to all parts of the world as well. Mr. Dickinson is now located in the offices formerly occupied by his father at 64 Nassau St., New York, where all future orders and inquiries should be addressed.

A New Soap Company.

The Miller Mfg. Co. is a new concern recently organized, which has purchased the business and plant of the Wm. H. Place Mfg. Co., 688 Eddy St., Providence, R. I., and has thoroughly renovated the building, enlarging the plant and equipping it with all modern appliances for the manufacture of high grade textile soaps, sizings and oils.

The officers of the company are men who have had experience in this line of business and also who have an extended acquaintance in the mill trade. M. S. Orth of Martin, Orth & Hastings of Boston and New York, is president, and Warwick E. Miller, who is treasurer and general manager, was for a number of years with Armour & Co. and understands the requirements of textile manufacturers.

It is their idea to make a high grade product suited to the special requirements of the textile trade. Lewis T. Place and Walter M. Fuller remain with the new company and will attend to the requirements of their old customers and new ones. The concern starts under the most favorable auspices.

Finishing Compound.

The Arabol Manufacturing Co., 100 William St., New York, are confident that users of tallow as a softener would be gratified by the superior results obtained by the soluble softening oil. Among the advantages of this oil are the smooth finish of the warps, the easy parting of the threads in the lease rods, the clean and bright appearance of slasher cylinders. Especially good results are shown on strong and closely woven goods, such as corduroys, velveteens, sateens, umbrella cloths cambrics, etc. It is said that the season has no influence on soluble softening oil. It remains sweet, uniform and pliable summer and winter. It is neutral and easily handled.

Cure-Alls for Boiler Troubles.

It is no reflection upon the best boiler compound to say that it cannot meet all requirements. It cannot be a cure-all regardless of the conditions, for these vary with the locality, the character of the water, the type of boiler, its use and operation. The conditions must be analyzed if waste is to be prevented and efficiency is to be secured. An electric power plant was recently having such serious trouble from scale that samples of the water were sent coincidently to a reputable concern making boiler compounds and to a chemist. The concern, which for obvious reasons is not named here, recommended the use of their dry compound selling for 10 cents per pound. The chemist, Arthur D. Little, of Boston, reported that the scale could be very largely prevented by the use of ordinary soda ash which can be purchased practically pure for about a cent a pound. Mr. Little also analyzed the boiler compound, which he found to contain soda ash 70 per cent., tannin 20 per cent., and water 10 per cent. He showed that while tannin is of value in softening old scale, and in preventing corrosion in certain kinds of water, it was unnecessary at this particular station. The station would have to use about 20 pounds per day of the compound as against a correspondingly smaller proportion of the pure soda ash, so that the saving in buying soda ash is very obvious.

Windham Mfg. Co. to Install Electric Drive.

Another large textile mill is being equipped with electric drive by the engineers of the Crocker-Wheeler Company, manufacturers of electrical machinery, of Ampere, New Jersey. A complete electric power plant, including motors, transformers and switchboards, has just been shipped by that company to the Windham Manufacturing Co., of Willimantic, Conn. The equipment consists of nine 550 volt squirrel cage induction motors aggregating about 500 horsepower, which will be used to drive the machinery in the mill. The generating equipment consists of two 500 kilo-vol-ampere, 600 r. p. m. generators. The current will be generated at 600 volts, 60 cycles, 3 phase and will be transformed to 110 volts for lighting. The motors are all arranged for ceiling suspension. The transformers for the lighting system and the switchboard were also furnished by the Crocker-Wheeler Company.

Opened New England Office.

The J. B. Ford Co. of Wyandotte, Mich., has opened a New England office at 183 Essex St., Boston, Mass., in charge of C. J. Fleckenstein. Wyandotte Textile Soda is now very largely used by the textile manufacturers in this section. This office has been opened for the best service of their trade, more especially in the way of rendering any technical assistance that may be helpful.

Walter B. Snow, Publicity Engineer, of Boston, has been appointed by Governor Guild a member of the Massachusetts Commission for the Blind.

Handling Stock Economically.

The Economy Engineering Co., 58 North Jefferson St., Chicago, has a simple method of handling bales, bags, cases and all large packages which is immeasurably ahead of the tugging and back-breaking lifting, in any ordinary case. They build a portable elevator or tiering machine, as it is called, for raising, lowering or transferring heavy packages. It is a simple apparatus, complete in itself (except in the case of the electric model, which may be connected at any point with the electric circuit by plugs or flexible conduit) and can be operated or moved about to any place or position by one man. The electric model is supplied with a small but powerful motor, automatically controlled. The device is simply a base from which two uprights extend and a movable platform operated on the uprights by the raising and lowering mechanism. The space occupied is small so that it can be used under almost any conditions. Goods are put in place with ease and economy, saving space, and in such a manner that they may be readily accessible. It is used by scores of mills with great satisfaction. The Economy Engineering Co. will be glad to send further particulars, with list of firms who are satisfied users.

900,000 American Patents.

On September 29, 1908, the United States Patent Office issued its 900,000th patent, for an improvement on traveling stairs such as are used in hotels and other large buildings. The first patent was recorded in the Patent Office January 15, 1836, for an improvement in a box for packing tobacco. During the seventy-two years the United States Patent Office has been in existence an average of 12,500 patents have been issued every year. The Commissioner of Patents estimates that the 1,000,000th patent will be reached in the year 1911. The issuance of all foreign patents up to date of last report was 1,135,000, or only 235,000 in excess of the total for the United States.—Commercial America.

Swatch Books.

H. Dangel & Co., 29 Otis St., Boston, stationers and printers, are advertising swatch books suitable for samples of cloth, stock or mixes. Each book contains 96 pages, 11 by 16 inches, with space for 8 samples on a page. They open flat, are made of heavy Manila paper with canvas binding, and are a great improvement over the rough books commonly used in the mill. Some of the leading worsted and woolen mills are using these books and the fact that they continue to use them is good evidence that it is worth while to provide a suitable book for samples which are worth keeping. Manufacturers, designers, carders and dyers will find these swatch books of great assistance in keeping samples neatly and in a form handy for reference.

The Fingering Machine.

We desire to call the attention of our readers to the advertisement of James Leckie & Son, which appears on page 235 of this issue. In the January number of our magazine we will have an illustrated article on this seamless fingering machine giving full particulars.

Carbolineum Wood Preserving Company.

The Carbolineum Wood Preserving Co., 349 West Broadway, New York, manufacturers of Avenarius Carbolineum, which preserves wood from decay, announces the following appointments and transfers of its staff representatives:

Fred C. Bartels, transferred from St. Louis to the company's office at the above address, Southern representative.

Robert L. Felser, Pennsylvania state representative, present headquarters at above address.

Julius Perlowitz, Connecticut and Rhode Island representative, headquarters at above address.

Louis Edward Rusch, New York City representative.

Edwin Scheftels, transferred from New York State to Milwaukee office.

A Monster Belt.

The Botany Worsted Mills of Passaic, N. J., have recently received an enormous main belt, intended to transfer 1,000 h. p. Belt weighs 3,000 pounds, is 150 feet long, 60 inches in width, and three ply. It required 300 hides to manufacture this one belt, and was made by a Philadelphia firm, Joseph C. Paulus & Co.

Foreign Trade Papers.

The Technical Publicity Association is an organization of publicity managers for machinery and engineering concerns and counts among its membership a large number of advertising and sales managers.

At the October meeting, President Charles S. Redfield gave a very interesting talk on the subject of "Foreign Advertising," in which he found little to praise in the trade papers of Europe as compared with those in America. In England the condition is more like that in the United States in a number of first class trade journals. (At the meeting held in Chicago in connection with the publishers' convention, the showing made by the English papers was very creditable.) France, where Mr. Redfield spent nearly a month, has no strong papers in the hardware or machinery field. The respect of all the older papers for American ideas especially impressed him.

Mr. Redfield said, "At present for any American manufacturer to attempt to use extensively the trade papers of Europe to push the sale of his product is, in my judgment, money very poorly invested; except as he may have some wise and careful agents in the various countries who are capable of taking and using a certain amount of trade paper space; watching it carefully; loading the paper with reading notices, and generally exercising that supervision which can only be given when close at hand."

The T. P. A. publishes a neat little bulletin which those interested in trade paper advertising ought to read regularly.

Will Australia Get Ahead of Us?

According to the Melbourne "Age," the late Deakin Government in Australia intended to bring in almost immediately a new Patents Bill based on the compulsory working clauses of Mr. Lloyd-George's English Act of 1907. "The Federal Government," the "Age" says, "recognizes that owing to the limited demand which there is in Australia for certain extremely complicated patented articles, which are essential to the operations of many local manufacturers, there is no complete analogy between the conditions in the United Kingdom and in the Commonwealth. In its bill, therefore, it will not slavishly copy the British Act in detail. The new measure will, however, provide machinery, so that hundreds, if not thousands, of patents now exclusively worked in America, Germany, Canada, Great Britain, and Norway shall automatically be revoked after a period of years—yet to be fixed—unless they are worked in Australia. It will be necessary to give a certain amount of discretion to the Minister and to the Commissioner of Patents when administering this machinery, but it may be taken that the responsibility for failure to manufacture adequately in Australia will be thrown upon the representatives of the owners of a patent in the Commonwealth, and not on the users of the patented article who purchase or lease it on terms fixed by foreign syndicates and corporations." This is a quite natural but perhaps hardly foreseen result of our new patent policy, and we must be prepared for the introduction, sooner or later, of similar legislation not only in Australia but in all our self-governing colonies which cherish industrial ambitions and follow a Protectionist policy. How our manufacturers will enjoy the prospect of forfeiting their colonial patents or arranging for the production of their patented articles in a number of small colonial works in another matter.—Manchester (Eng.) Guardian.

Nye & Tredick Company in New Quarters.

Nye & Tredick Company, manufacturers of rib knitting machinery, who have been located at 606 Arch St., Philadelphia, for a number of years, have removed their offices and show rooms to 718-720 Cherry St., Philadelphia, where, in the future, they will be glad to meet their old as well as prospective customers.

Charles H. Bridoux & Co., manufacturers of special sewing machines for various purposes, including glove machines, knit goods' sewing machines, over-seaming machinery, etc., are now located at 72-80 North May St., Chicago, having recently moved to new quarters and where they have greatly increased facilities.

Recent Textile Patents.

COTTON COMPRESS. 902,976. Thomas B. Lee, Charlotte, N. C.

COTTON or Other Fibers. Machine for Opening and Cleaning. 903,969. Richard and Josiah Greenhalgh, Oldham, England.

DYEING APPARATUS. 904,315. Robert Diederichs, Cologne, Germany.

DYEING MACHINES. Hoisting and Agitating Apparatus for. 904,260. Joseph Hussong, Camden, N. J.

EMBROIDERY MACHINE. 902,814. Jos. A. Groebli, New York, assignor to Kursheedt Manufacturing Co., New York.

EMBROIDERING MACHINE. 902,819. Jos. A. Groebli, New York, assignor to Kursheedt Manufacturing Co., New York.

EMBROIDERY MACHINE Bore Mechanism. 902,817. Jos. A. Groebli, New York, assignor to Kursheedt Manufacturing Co., New York.

EMBROIDERY MACHINE Coupling Mechanism. 902,816. Jos. A. Groebli, New York, assignor to Kursheedt Manufacturing Co., New York.

EMBROIDERY MACHINE Festoon Mechanism. 902,818. Jos. A. Groebli, New York, assignor to Kursheedt Manufacturing Co., New York.

EMBROIDERY MACHINE Stop Mechanism. 902,815. Jos. A. Groebli, New York, assignor to Kursheedt Manufacturing Co., New York.

FABRICS and Other Material. Producing Glossy or Silky Effects on. 904,269. Leon Lilienfeld, Vienna, Austria-Hungary.

FIBROUS MATERIAL. Mordanting. 903,833. Ferdinand Blumenthal, Biebrich, Germany.

KNITTING MACHINE. Needle Cylinder and Operative Mechanism for Needles of Circular. 903,190. Henry A. Houseman, Philadelphia, Pa.

KNITTING MACHINE. 904,484. Warren D. and Leon C. Huse, Laconia, N. H.

KNITTING MACHINES. Automatic Measuring Attachment for Circular. 904,204. John B. Hipwell, Reading, Pa.

LOOM. 903,589. Hamilton Lindsay, Cleveland, O.

LOOM. Automatic Weft-replenishing. 904,290. Horace Wyman, Worcester, Mass.

LOOM. Automatic Weft-replenishing Mechanism. 903,912. William R. Stitt, Belfast, Ireland.

LOOM. Narrow Ware. 904,281. Otto W. Schaum, Philadelphia, Pa.

LOOM PATTERN Mechanism. 904,495. Oscar L. Owen, Whitinsville, Mass.

LOOM STARTING and Stopping Mechanism. 904,450 Alonzo E. Rhoades, Hopedale, Mass.

LOOM SHUTTLE Check. 902,615. Enoch H. Smith, Belton, S. C.

LOOM TAKE-UP. 903,146. Fred T. Withee, Springfield, Mass., and Robert White, Cleveland, O.

LOOM TEMPLE. 902,925. Ephraim H. Spedding, Lowell, Mass.

LOOMS. Shuttle Positioner for Weft-replenishing. 903,911. William R. Stitt, Belfast, Ireland.

LOOM WARP Let-off. 903,145. Fred T. Withee, Springfield, Mass., and Robert White, Cleveland, O.

LOOM WARP Stop Motion. 902,741. Frederic E. Kip, Montclair, N. J.

SPINNING FRAME Attachment. 903,063. Albert Duckworth, Lowell, Mass., assignor to Draper Co., Hopedale, Mass.

SPINNING MACHINE. 902,882. John Jackson, Pawtucket, R. I., assignor to Howard & Bullough American Machine Co., Ltd., Pawtucket, R. I.

SPINNING MACHINE Spindle. 902,890. Albert Long, Lawrence, Mass., assignor of one-third to Isaac S. Leadbetter, Swampscott, Mass., and one-third to Rufus Shorey, Rochester, N. Y.

SPINNING or Twisting Frame Thread Guide Support. 904,493. John T. Meats, Taunton, Mass.

SPINNING, Twisting and Doubling Machine. 903,965. Sebastian Z. de Ferranti, Sheffield, England.

SPOOL. Thread. 904,396. Edward A. Zobel, Holmesville, Neb.

THREAD from Hair. Manufacture of. 903,645. Albert Webb, Worcester, England.

WOVEN FABRIC. Double Faced. 903,595. Wm. H. Margerison and Albert E. Margerison, Philadelphia, Pa.

YARN PACKAGE. 903,641. Simon W. Wardwell, Providence, R. I.

Recent Textile Trade Marks Registered.

"Crestaire." Cotton dress goods. Burch, Bailey & Co., New York.

"Miladies." Petticoats, dress skirts, etc. Salo I. Jackson, New York.

"Tally-ho." Wye & Wye, New York.

"Reliance." Men's, boys' and children's coats, pants, etc. Merrimac Mfg. Co., New York.

"Blue Ribbon." Hosiery, undershirts and drawers. Edward K. Graham, Philadelphia, Pa.

"Playmates." Hosiery. A. B. Andrews Co., New York.

"Messalette." Mercerized cotton piece goods. Clarence Whitman & Co., New York.

"Togard." Hosiery. Elk Knitting Mills Co., Philadelphia, Pa.

"The Broad-Long." Byrne & Hammer Dry Goods Co., Omaha, Neb.

"Kindergarten." Piece goods made of cotton, wool, etc. Wm. H. Brown & Co., New York.

"Lone Star C." Cotton goods in the piece. Norton Pratt Co., Memphis, Tenn.

C. E. RILEY COMPANY

65 Franklin Street, .. BOSTON, MASS.

COTTON AND COTTON GOODS YARNS

DIRECT IMPORTERS OF EGYPTIAN COTTON

COTTON WOOLEN WORSTED MACHINERY

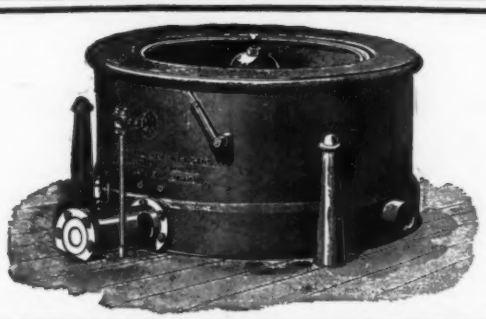
Thomas Broadbent & Sons,

Huddersfield, Eng.

PATENT DIRECT STEAM DRIVEN

HYDRO-EXTRACTORS

OVER 3500 IN USE. ALSO ELECTRICALLY DRIVEN



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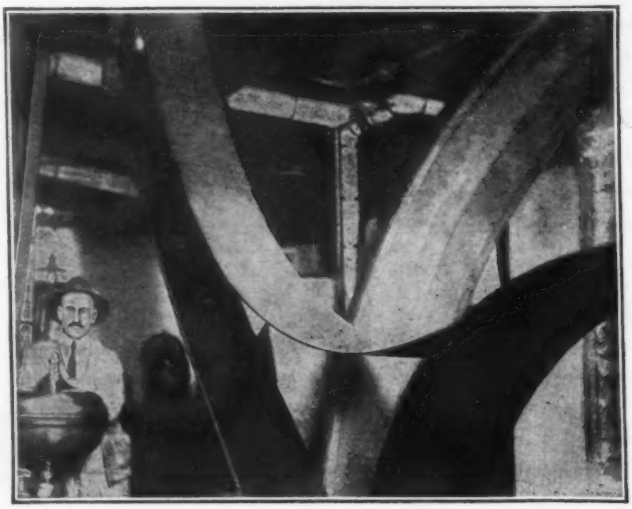

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A good example of Cling-Surface results:

Cling-Surface treatment of belts makes and keeps them pliable, waterproof and preserved. They never dry out nor crack. Cling-Surface is not sticky, but penetrates all through the belt, where needed most, and makes the belt face like calf skin. Slipping is prevented, and every belt can be run slack and carry full loads with ease at all points.

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eliminate bleaching, tinting, softening and finishing troubles

We have studied the requirements of Hosiery and underwear finishing fully and know by the results representative mills are getting with

D=M Bleaching Assistant

D=M Bleacher's Blue **D=M Egyptian Tint**

D=M Softener **D=M Gum for Hosiery** **D=M Woolclean**

that we can help **you**

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Buyers' Index

The addresses of builders of mill machinery and dealers in mill supplies, whose names appear in the following classified index, may be found upon referring to their advertisements. The Alphabetical Index to advertisers follows this classified list. Buyers who are unable to find in the classification here given such machinery or supplies as they desire, are invited to communicate with the publishers, who can, in all probability, refer them to proper sources. Advertisers whose names do not appear under desired headings will please notify the publishers. Such omissions are accidental, not intentional.

Advertising Agents.
Chesnutt, Nelson A., & Co.

Air Moistening System.
American Moistening Co.
Bell Pure Air & Cooling Co.
Carrier Air Conditioning Co. of America.
Cramer, Stuart W.
Parks, G. M., Co.

Architects and Mill Engineers.
Ferguson, John W.
Cramer, Stuart W.

Asphalt Tanks.
Scaife, W. B., & Sons.

Automatic Feeds for Cotton and Wool.
Kitson Machine Co.
Leigh, Evan A.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Schofield, Wm., Co.
Woonsocket Machine & Press Co.

Bale Ties.
Acme Steel Goods Co.
DeHaven Manufacturing Co.

Baling Presses.
Boomer & Boschert Press Co.
Philadelphia Drying Mchy. Co.
Minnich Machine Works.
Sullivan Machinery Co.

Bandings.
—See under Yarns.

Baskets.
Lane, W. T., & Bro.

Bearing Metals.
Dodge Mfg. Co.

Belting.
Burnham, E. E., Co.
Candy Belting Co.
Rhoads, J. E., & Sons.
Shultz Belting Co.
—See also Mill Supplies.

Belt Dressing.
Cling Surface Mfg. Co.
Dixon, Jas., Crucible Co.
Shultz Belting Co.
Stephenson Mfg. Co.

Belt Lacing Machines.
Birdsboro Steel Foundry & Machine Co.

Bindings.
—See Tapes and Braids.

Bleaching Kiers.
Arlington Mch. Wks. (Arthur Birch, prop.)
Philadelphia Drying Machinery Co.
Textile Finishing Machinery Co.

Bleaching Materials.
Bosson & Lane.
Danker & Marston.
Roessler & Hasslacher Chemical Co.

Blowers and Blower Systems.
American Blower Co.
Buffalo Forge Co.
Dean Bros. Steam Pump Works.
Philadelphia Drying Machinery Co.
Sturtevant, B. F., Co.
Schnitzler, Chas. H.

Bobbins, Spools, Shuttles, Etc.
American Supply Co.
American Textile Specialty Mchy. Co.
Leigh, Evan A.
Lestershire Spool & Bobbin Co.
Tebbets, E. L., & Co.
Wilson & Co.

Bobbin Winders.
Lever, Oswald Co.
Universal Winding Co.

Boiler Inspection and Insurance.
—See Steam Boiler Insurance.

Boilers.
—See Steam Boilers.

Boxes, Cloth Boards, Etc.
Pearson, J. T.

Box Strapping.
Acme Steel Goods Co.
De Haven Mfg. Co.

Braiding Machinery.
Mason Mfg. Co.
New England Butt Co.
Textile Machine Works.

Braids.
—See Tapes, Braids and Edgings.

Brass Hinges.
Root, C. J., Co.

Bridges.
Scaife, W. B., & Sons.

Brushers.
—See Napping Machines.

Brushes.
Felton, S. A., & Son Co.
Mason Brush Works.

Burr Pickers.
Curtis & Marble Machine Co.
Sargent's, C. G., Sons.
Smith & Furbush Machine Co.

Calico Printers' Machinery and Supplies.
Arlington Mch. Wks. (Arthur Birch, prop.)
Birch Bros., Somerville Machine Wks.
Butterworth, H. W., & Sons Co.
Taunton-New Bedford Copper Co.
Textile Finishing Mchy. Co.
—See also Dyeing, Bleaching, Machinery, etc.

Canvas Baskets.
Lane, W. T., & Bro.

Caps.
Calder Machine Works.

Carbonizing Machinery.
Birch Bros., Somerville Machine Wks.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Sargent's, C. G., Sons.
Tolhurst Machine Works.

Card Clothing.
Ashworth Bros.
Howard Bros. Mfg. Co.
Leigh, Evan A.
Riley, C. E., Company.
Stoddard, Haserick, Richards & Co.

Carded Cotton.
Blaisdell, S., Jr., Company.

Card Feeds.
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Card Grinding Machinery.
Entwistle, T. C., Co.
Leigh, Evan A.
Riley, C. E., Company.
Smith & Furbush Machine Co.
Stoddard, Haserick, Richards & Co.

Carders' Tools.
Brown, Wm. H., Co.

Carpet Machinery.
Altemus, Jacob K.
Curtis & Marble Machine Co.
Philadelphia Textile Machinery Co.
Smith & Furbush Machine Co.

Castings.
Farrel Foundry and Machine Co.
Schofield, Wm., Co.

Cell Driers.
Cell Drier Machine Co.

Cement.
Atlas Portland Cement Co.

Cement Pans.
Scaife, W. B., & Sons.

Chains (Detachable, Silent and Roller).
Link Belt Co.

Chemicals.
Harding & Fancourt.
Roessler & Hasslacher Chemical Co.

Chemists.
Little, Arthur D.

Cling Surface.
Cling Surface Mfg. Co.

Clocks.
Pettes & Randall Co.

Cloth Boards.
Chaffee Bros.
Pearson, J. T.
Richardson Brothers.

Cloth Cutting Machinery.
Adams, A. L.
Cameron Machine Co.

Cloth Expanders.
American Finishing Machinery Co.
Arlington Mch. Wks. (Arthur Birch, prop.)
Leyland, Thomas, & Co.
Textile Finishing Machinery Co.

Clutches.
American Tool & Machine Co.
Dodge Mfg. Co.
Hunter, James, Machine Co.
Mossberg Wrench Co.

Combs (Wool and Cotton).
Hood, R. H., Company.
Jefferson, Edward & Brother.
Leigh, Evan A.
Philadelphia Textile Machinery Co.
Riley, C. E., Company.
Stewart & Sons.
Stoddard, Haserick, Richards & Co.

Concrete Work and Construction.
Atlas Portland Cement Co.
Gilbreth, Frank B.

Condensers.
Dean Bros. Steam Pump Works.

Conditioning of Textile Fabrics.
New York Silk Conditioning Works.

Conveying Systems.
Buffalo Forge Co.
Dodge Mfg. Co.
Snitzler, C. H.
Sturtevant, B. F., Co.

Cooper Hewitt Lamps.
Cooper Hewitt Electric Co.

Cop Spindles.
American Textile Specialty Mchy. Co

Cop Tubes.
American Textile Specialty Mchy. Co
—See Paper Tubes.

Copper Print Rollers.
Taunton-New Bedford Copper Co.

Coppersmiths.
Badger, E. B., & Sons Co.

Copper Work for Dyers.
Badger, E. B., & Sons Co.
Butterworth, H. W., & Sons Co.
Textile Finishing Machinery Co.

Corrugated Iron and Steel.
Scaife, W. B., & Sons.

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Cotton.
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Charles, W. B.
Riley, C. E., Company.
Schwartz, L. H. A., & Co.
Stoddard, Haserick, Richards Co.

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Altemus, Jacob K.
American Textile Appliances Co.
American Textile Specialty Mchy. Co.
Ashworth Bros.
Brockway & Meckenstrum.
Butterworth, H. W., & Sons Co.
Cramer, Stuart W.
Crompton & Knowles Loom Works.
Curtis & Marble Machine Co.
Draper Company.
Easton-Burnham Co.
Elliott & Hall.
Entwistle, T. C., Co.
Firth, William, Co.
Howard & Bullough American Mach. Co.
Kilburn, Lincoln & Co.
Kip-Armstrong Co.
Kitson Machine Co.
Leigh, Evan A.
Lowell Machine Shop.
Mason Machine Works.
McKerrow, H. G., Co., Ltd.
Metallic Drawing Roll Co., The.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Providence Machine Co.
Riley, C. E., Company.
Saco & Pettee Machine Shops.
Schofield, Geo. L.
Schwartz, L. H. A., & Co.
Smith & Furbush Machine Co.
Stafford Co., The.
Stoddard, Haserick, Richards & Co.
Textile Finishing Machinery Co.
Textile Machinery Co.
Whitin Machine Works.
Woonsocket Machine & Press Co.

Cotton Openers and Lappers.
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Kitson Machine Co.
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Riley, C. E., Company.
Stoddard, Haserick, Richards & Co.

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Burckhardt & Co.
Danker & Marston.
Harding & Fancourt.

Cotton Waste.
Blaisdell, S., Jr., Co.
Charles, W. B.
Schofield, Edwin F.

Counting Machines.
Durbrow & Hearne Mfg. Co.
Root, C. J., & Co.
Schuhardt & Schutte.

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Howe Mill Crayon Co.
Lowell Crayon Co.

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Cameron Machine Co.
Durbrow & Hearne Mfg. Co.
Oswego Machine Works.

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Power Specialty Co.

Dextrine.
Stein, Hirsh & Co.

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Kilburn, Lincoln & Co.
Stafford Co., The.

Dobby Chain.
Nuttall, George.

Draughtsmen.
Cameron Machine Co.

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Jefferson, Edward & Brother.
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Birch, Arthur, Arlington Mch. Wks.
Birch Bros., Somerville Machine Wks.
Buffalo Forge Co.
Butterworth, H. W., & Sons Co.
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Hunter, Jas., Machine Co.
Jefferson, Edward & Brother.
Kenyon, D. R., & Son.
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Sargent's, C. G., Sons.
Schwartz, L. H. A., & Co.
Sturtevant, B. F., Co.
Textile Finishing Machinery Co.
Tolhurst Machine Works.

Drying Boards.
Bull, William C.
Pearson, J. T.
Philadelphia Drying Mchy. Co.

Dusters.
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Dust Collectors.
American Blower Co.
Philadelphia Drying Machinery Co.
Sturtevant, B. F., Co.

Dyers, Bleachers and Finishers.
Brophy's, T., Sons.
Davidson, J. F.
Davis & Quick.
Firth & Foster Co.
Germania Dye Works.
Globe Dye Works Co.
Home Bleach & Dye Works.
Lorimer's, The Wm. H., & Sons Co.
Pawtucket Dyeing & Bleaching Co.
Peerless Co.
Rowland, Samuel.
Solway Dyeing & Textile Co.
Utica Willowvale Bleaching Co.
Western Thread & Dye Works.

Dyeing, Drying, Bleaching and Finishing Machinery.
American Blower Co.
American Laundry Mchy. Mfg. Co.
Arlington Mch. Wks. (Arthur Birch, prop.)
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Birch Bros., Somerville Machine Wks.
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Butterworth, H. W., & Sons Co.
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Curtis & Marble Machine Co.
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Gessner, David.
Heathcote, John, & Son.
Hopkins Machine Works.
Hunter, James, Machine Co.
Kenyon, D. R., & Son.
Klauder-Weldon Dyeing Machine Co.
Klipstein, A., & Co.
Leigh, Evan A.
Leyland, Thos., & Co.
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Philadelphia Textile Machinery Co.
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Schuchardt & Schutte.
Smith, Drum & Co.
Sturtevant, B. F., Co. (Drying).
Textile Finishing Machinery Co.
Tolhurst Machine Works.

Dye House Cans.
Hill, James, Mfg. Co.

Dye House Trucks.
Bailey, Frank.

Dye Sticks.
Bailey, Frank.
Haedrich, E. M.

Dye Tubs.
——See Tanks, Tubs and Vats.

Dyestuffs and Chemicals.
American Dyewood Co.
Arabol Manufacturing Co.
Badische Co.
Berlin Aniline Works.
Bischoff & Co.
Bosson & Lane.
Cassella Color Co.
Danker & Marston.
Farbenfabriken of Elberfeld Co.
Kalle & Co.
Ford, J. B., Co.
Geisenheimer & Co.
Jamaica Dyewood & Chemical Co.
Johnson, Chas. A., & Co.
Klipstein, A., & Co.
Leyland, Thos., & Co.
Metz, H. A., & Co.
Roessler & Hasslacher Chemical Co.
Stein, Hirsch & Co.
Sykes, Walter F., & Co.
Thayer, Ed. M., & Co.

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Electrical Construction.
Crocker-Wheeler Co.
General Electric Co.
Sturtevant, B. F., Company.
Watson-Flagg Engineering Co.
Westinghouse Electric & Mfg. Co.

Electrical Heating Devices.
Crocker-Wheeler Co.

Electric Driven Pumps.
Dean Bros. Steam Pump Works.

Electric Fans.
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Crocker-Wheeler Co.
General Electric Co.
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Philadelphia Textile Machinery Co.
Sturtevant, B. F., Co.
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Buffalo Forge Co.
Cooper Hewitt Electric Co.
Crocker-Wheeler Co.
General Electric Co.
Sturtevant, B. F., Co.
Westinghouse Electric & Mfg. Co.

Electric Motors.
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Elevators.
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Embossing Machines.
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Employees' Time Recorders.
Pettes & Randall Co.

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Exhaust Heads.
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Sturtevant, B. F., Co.
Power Specialty Co.

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——See Ventilating Apparatus.

Feed Water Heaters.
Scaife, W. B., & Sons.

Feed Water Pumps.
Dean Bros. Steam Pump Works.
Goulds Mfg. Co.

Feed Water Purifiers.
Dodge Mfg. Co.
Scaife, W. B., & Sons.

Feeds.
——See Automatic Feeds.

Feed Water Regulators.
Berry Engineering Co.

Felt Hardeners.
Farrel Foundry and Machine Co.

Felting Machinery.
Farrel Foundry and Machine Co.

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Norwood Engineering Co.
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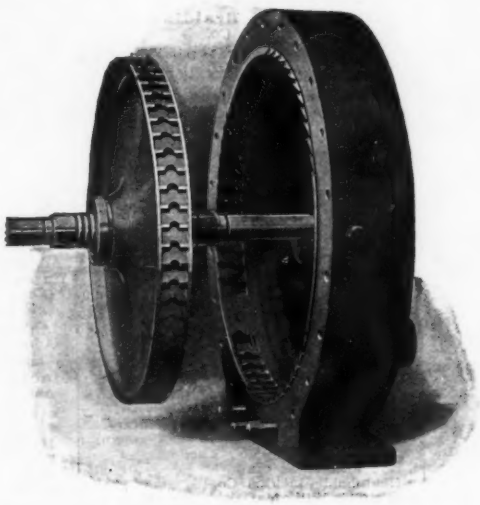
Sturtevant Steam Turbine

Is just the thing for driving a

Mechanical Draft Fan?



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No Internal Lubrication **No Oil in Exhaust Steam**

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General Office and Works, Hyde Park, Mass.

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Finishing Machinery.
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Fire Brick.
Borgner, Cyrus, Co.

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Fluted Rolls.
Hood, R. H., Company.
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Riley, C. E., Company.
Thurston, A. G., & Son.

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Oneida Community, Ltd.

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Friction Cones.
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Kenyon, D. R., & Son.

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Murphy Iron Works.

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Walworth Manufacturing Co.

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Farrel Foundry and Machine Co.
New Process Raw Hide Co.

Gear Cutting.
Farrel Foundry and Machine Co.

Gear Cutting Machine.
Whiton, The D. E., Co.

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Buffalo Forge Co.
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Sturtevant, B. F., Co.

Geyser Water Heater.
Sargent's Sons, C. G., Corp.

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N. Y. & N. J. Lubricant Co.

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Philadelphia Drying Machinery Co.

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Kaumagraph Company.

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Bell Pure Air & Cooling Co.
Carrier Air Conditioning Co. of America.
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American Tool & Machine Co.
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Tolhurst Machine Works.

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Remington Machine Co.

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Sauquoit Silk Mfg. Co.

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Home Insurance Co.

Investments.
Cross Creek Coal Co.

Ironing Machines for Knit Goods.
American Laundry Machinery Mfg. Co.
Consolidated H. S. & L. M. Company.

Jacquards.
Halton's, Thomas, Sons.

Jacquard Cards.
Case Bros., Inc.

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Chapin, Geo. W.
Charles, W. B.
Cheney Bros.
Friedberger-Aaron Mfg. Co.
Krout & Fite Mfg. Co.
Weimar Bros.

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Mayo Knitting Machine & Needle Co
National Automatic Knitter Co.
Nye & Tredick Co.
Paxton & O'Neill.
Scott & Williams.
Stafford & Holt.
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Excelsior Needle Co.
Grosser Knitting Machine Co.
Ives, L. T., Co.
Lamb Knitting Machine Mfg. Co.
Keystone Latch Needle Co.
Mayo Knitting Machine & Needle Co.
Wardwell Needle Co.

Lamps, Electric.
Cooper Hewitt Electric Co.
General Electric Co.
Westinghouse Electric & Mfg. Co.

Loom Pickers.
Barlow, John W., Co.

Looms.
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Draper Company.
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Lowell Machine Shop.
Stafford Co., The.
Mason Machine Works.
Stoddard, Haserick, Richards & Co.
Whitin Machine Works.

Loopers.
Beattie Manufacturing Co.
Hepworth, John W., & Co.
Leighton Machine Co.

Lubricants.
Borne, Scrymser Co.
Dixon, Jos., Crucible Co.
N. Y. & N. J. Lubricant Co.

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Detroit Lubricator Co.
Walworth Mfg. Co.

Lumpers.
Gerry, George, & Son.
Schofield, Wm., Co.

Machine Designers.
Adams, A. L.
Cameron Machine Co.

Machine Tools.
Am. Tool Works Co.

Machinery Dealers.
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Lamb, J. K., Textile Mach. Co.
Schofield, Geo. L.
Taylor, James.

Machinists.
Adams, A. L.
Calder Machine Works.
Cameron Machine Co.

Machinists' Tools.
Whiton, The D. E., Co.

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Marking Pots.
Bradley, A. J.

Measuring and Folding Machines.
Curtis & Marble Machine Co.
Elliott & Hall.

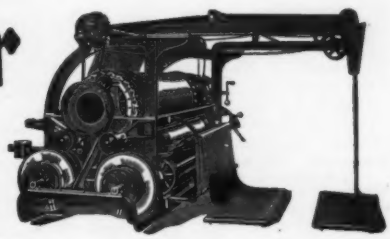
Mechanical Draft.
American Blower Co.
Buffalo Forge Co.
Sturtevant, B. F., Co.

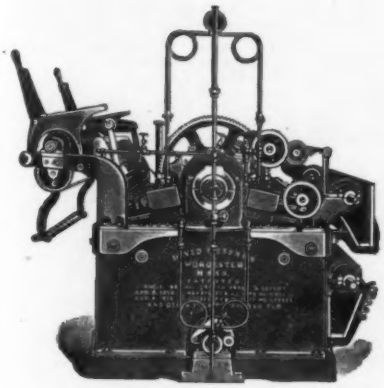
Mechanical Draughtsmen.
Sturtevant, B. F., Co.
Cameron Machine Co.

Mechanical Engineers.
American Blower Co.
Buffalo Forge Co.
Dodge Mfg. Co.
Philadelphia Drying Machinery Co.
Sturtevant, B. F., Co.

David Gessner

Worcester, Mass.

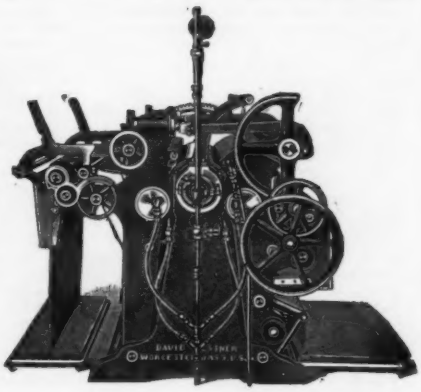




Latest Improved Cloth Finishing Machinery

—

Napping Machines and Presses a Specialty



Pneumatic Extractor No. 12
Polishing & Grinding Machine No. 13
Lacquering & Lustreing Machine No. 28
Brushing Machine No. 32

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Schuchardt & Schutte

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Wet and Dry Decatizing Machine No. 19

Automatic Platen Press No. R
Stenciling Machine No. E
Astrachanizing Machine No. 35 A
Examination Tables Nos. 1, 2 & 3

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Murphy Iron Works.

Mercerizers.
Globe Dye Works Co.
Home Bleach & Dye Works.
Lorimer, Wm. H., Sons Co.

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Butterworth, H. W., & Sons.
Klauder-Weldon Dyeing Machine Co.
Schwartz, L. H. A., & Co.
Smith, Drum & Co.
Textile Finishing Machinery Co.

Metallic Fire-proof Window Frames and Sashes.
Badger, E. B., & Sons Co.

Metallic Packing.
Power Specialty Co.

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—See Architects and Mill Engineers.

Mill Builders and Engineers.
Gilbreth, Frank B.
Ferguson, John W.

Mill Supplies.
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Bamford & Smith.
Buckley's, Benjamin, Sons.
Burnham, E. E., & Co.
Crosby Steam Gage and Valve Co.
Easton-Burnham Co.
Eureka Fire Hose Co.
Jefferson, Ed., & Bro.
Lane, W. T., & Bro.
Leigh, Evan A.
Murphy, E. W., & Co.
N. Y. & N. J. Lubricant Co.
Philadelphia Drying Machinery Co.
Pratt, R. C.
Riley, C. E., Company.
Richardson Bros.
Shaw, Victor, Ring Traveler Co.
Stephenson Mfg. Co.
Stoddard, Haserick, Richards & Co.
Thurston, A. G., & Son.
Vandegrift, Elias T.
Walworth Manufacturing Co.

Motors (Electric).
Buffalo Forge Co.
Crocker-Wheeler Co.
General Electric Co.
Sturtevant, B. F., Co.
Watson-Flagg Engineering Co.
Westinghouse Electric & Mfg. Co.

Napping Machinery.
Birch Bros., Somerville Machine Wks.
Curtis & Marble Machine Co.
Gessner, David.
Leigh, Evan A.

Noils (Silk).
Malcolm Mills Co.
Ryle, Wm., & Co.

Non-Fluid Oils.
N. Y. & N. J. Lubricant Co.

Numbering Machines.
Durbrow & Hearne Mfg. Co.

Oil Cups.
Walworth Manufacturing Co.

Oils.
Borne, Scrymser Co.
Eurckhardt & Co.
Harding & Fancourt.
Murphy, E. W., & Co.
New York & New Jersey Lubricant Co.
Stephenson Mfg. Co.

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Bradley, A. J.

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Merrow Machine Co.
Singer Sewing Machine Co.
Willcox & Gibbs Sewing Machine Co.

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Power Specialty Co.

Paints (Wood Preserving).
Carbolineum Co.

Pantagraphs for Mill Engraving.
Johnson, C. A., & Co.

Paper.
Merwin Paper Co.
Richardson Bros.

Paper Boards.
Merwin Paper Co.

Patent Solicitors.
Crosby & Gregory.
Howson & Howson.
Pearson, Gardner.

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Hopkins Machine Works.

Peroxide of Sodium.
Roessler & Hasslacher Chemical Co.

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Durbrow & Hearne Mfg. Co.
Oswego Machine Works.

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Scaife, W. B., & Sons.
Walworth Manufacturing Co.

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—See Ventilating.

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Economy Engineering Co.

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American Mfg. Co.
American Pulley Co.
Cell Drier Machine Co.
Cresson, Geo. V., Company.
Dodge Mfg. Co.
Evans, G. Frank.
Farrel Foundry and Machine Co.
Hunter, Jas., Machine Co.
Kilburn, Lincoln & Co.
Link Belt Co.
Oneida Steel Pulley Co.
Philadelphia Drying Machinery Co.
Plymouth Cordage Co.
Reeves Pulley Co.
Saginaw Manufacturing Co.
Schofield, Wm., Co.
Sellers, William, & Co.
Textile Finishing Machinery Co.
Tolhurst Machine Works.

Preparatory Machinery (Cotton).
Howard & Bullough Am. Machine Co.
Kitson Machine Co.
Leigh, Evan A.
Riley, C. E., Company.
Saco & Pettee Machine Shops.

Presses.
Automatic Machine Works.
Boomer & Boschert Press Co.
Butterworth, H. W., & Sons Co.
Curtis & Marble Machine Co.
Gessner, David.
Hart, Charles.
Minnich Machine Works.
Phila. Drying Machinery Co.
Spence & Rideout.
Sullivan Machinery Co.
Textile Finishing Machinery Co.
Woonsocket Machine & Press Co.

Press Boards.
Case Bros., Inc.

Press Papers.
Merwin Paper Co.
Philadelphia Drying Mchy. Co.
Richardson Brothers (Importers and Dealers).

Pressure Regulators.
Crosby Steam Gage & Valve Co.
Walworth Mfg. Co.

Pulley Covering.
Warren Company.

Pulleys.
—See Power Transmission Machinery.

Pumps.
Buffalo Steam Pump Co.
Dean Bros. Steam Pump Works.
Goulds Mfg. Co.
Philadelphia Drying Machinery Co.
Textile Finishing Machinery Co.

Pump Governors.
Crosby Steam Gage & Valve Co.
Dean Bros. Steam Pump Works.
Walworth Mfg. Co.

Purifying & Filtration Plants.
Dodge Mfg. Co.
Hungerford & Terry.
Norwood Engineering Co.
Scaife, W. B., & Sons.

Quillers.
Foster Machine Co.
Payne, G. W., & Co.
Universal Winding Co.

Rag Pickers.
Schofield, Wm., Co.
Smith & Furbush Machine Co.

Railways.
Central Railway of New Jersey.

Ramie Tops and Noils.
Tierney, Frank A.

Raveling Machines.
American Raveler Co.

Raw Hide Gears.
New Process Raw Hide Co.

Reed and Harness Manufacturers.
American Supply Co.
Nuttall, George.
Stewart & Sons.
Walder, J.

Reducing Valves.
Crosby Steam Gage & Valve Co.
Walworth Mfg. Co.

Regulators (Pressure).
Crosby Steam Gage & Valve Co.
Walworth Mfg. Co.

Ribbon Cutters.
Cameron Machine Co.

Ribbons.
Cheney Bros.

Ring Travelers.
DeHaven Mfg. Co.
Shaw, Victor, Ring Traveler Co.

Roofing.
Barrett Mfg. Co.
Standard Paint Co.

Roller Leather.
Jefferson, Edward & Brother.

Roll Coverers.
Burnham, E. E., & Co.

Rolls (Rubber Covered).
American Wringer Co.

Rope.
American Mfg. Co.
Dodge Mfg. Co.
Plymouth Cordage Co.

Rope Transmission.
American Mfg. Co.
Cresson, Geo. V., Company.
Dodge Mfg. Co.
Plymouth Cordage Co.

Roving Cans.
Hill, James, Mfg. Co.
Standard Fibre Co.

Ruberoid Roofing.
Standard Paint Co.

Sash Cord Braiders.
Mason Mfg. Co.

Scallop Machines.
Merrow Machine Co.

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American School of Correspondence.
International Correspondence Schools.
Lowell Textile School.
New Bedford Textile School.
Philadelphia Textile School.

Scleroscope for Metal Testing.
Shore Instrument & Mfg. Co.

Secondhand Machinery.
—See Mchry. Dealers, also classified Ads.

Separators (Yarn).
Draper Co., The.

Sewing Machines and Supplies.
American Raveler Co.
Arlington Mch. Wks. (Arthur Birch, prop.)
Birch Bros., Somerville Machine Wks.
Bridoux, Chas. H., & Co.
Curtis & Marble Machine Co.

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Fales, L. F.
Singer Sewing Machine Co.
Textile Finishing Machinery Co.
Union Special Machine Co.
Willcox & Gibbs Sewing Machine Co.

Shafting, Hangers, Etc.
—See Power Transmission Machinery.

Shearing Machinery.
—See Dyeing, Drying, Bleaching and Finishing.

Sheet Metal Work.
Scaife, W. B., & Sons.

Shell Rolls.
Thurston, A. G., & Son.

Shoddies.
—See Wool Shoddies.

Shuttles.
—See Bobbins, Spools, Shuttles, Etc.

Silk Machinery.
Arlington Mch. Wks. (Arthur Birch, prop.)
Butterworth, H. W., Sons Co.
Leigh, Evan A.
Mason Machine Works.
Stoddard, Haserick, Richards & Co.
Textile Finishing Machinery Co.

Silk Mill Supplies.
Hall, I. A., & Co.

Silk Noils.
Fawcett, Hughes.

Singe Plates.
Butterworth, H. W., Sons Co.
Taunton, New Bedford Copper Co.
Textile Finishing Machinery Co.

Singeing Machines.
Automatic Machine Works.
Butterworth, H. W., Sons Co.
Curtis & Marble Machine Co.
Leigh, Evan A.
Philadelphia Drying Machinery Co.
Smith, Drum & Co.
Stubbs, Joseph.
Textile Finishing Machinery Co.

Sizing, Starch and Gums.
American Diamalt Co.
Arabol Mfg. Co.
Corn Products Refining Co.
Danker & Marston.
Miller Mfg. Co.
New Brunswick Chemical Co.
Stein, Hirsch & Co.

Skylights.
Drouve, G., Co.
Van Noorden, E., Co.

Slashers.
Leigh, Evan A.
Lowell Machine Shop.
Riley, C. E., Company.

Soaps.
Dobbins Soap Mfg. Co.
Miller Mfg. Co.
Zurn, O. F., Co.

Spindles.
Bamford & Smith.
Bodden, Wm. & Son, Ltd.
Buckley's, Benjamin, Sons.
Calder Machine Works.
Draper Company.
Easton-Burnham Co.
Hopkins Machine Works.
Jefferson, Edward & Brother.
Leigh, Evan A.
Riley, C. E., Company.
Stoddard, Haserick, Richards & Co.
Vandegrift, Elias T.

Spindle Tubes.
Bamford & Smith.
Calder Machine Works.
Riley, C. E., Company.
Stoddard, Haserick, Richards & Co.
Vandegrift, Elias T.

Spinning Rings.
Draper Company.
Howard & Bullough American Machine Co.
Whitinsville Spinning Ring Co.

Spinning Tubes.
Buckley's, Benjamin, Sons.
Jefferson, Edward & Brother.

Spools.
—See Bobbins, Spools, Shuttles, Etc.

Spoolers.
Draper Company.
Easton & Burnham Machine Co.
Lindsay, Hyde & Co.
Lowell Machine Shop.
Payne, George W., & Co.

Stacks.
Scaife, W. B., & Sons.

Steam Boilers.
Scaife, W. B., & Sons.

Steam Boiler Insurance.
Hartford Steam Boiler Inspection & Insurance Co.

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American Blower Co.
Buffalo Forge Co.
Fishkill Landing Machine Co.
Providence Engineering Works.
Sturtevant, B. F., Co.
Textile Finishing Machinery Co.

Steam Heating.
American Blower Co.

Steam Jacket Kettles.
Badger, E. B., & Sons Co.

Steam Pumps.
Dean Bros. Steam Pump Works.
Goulds Manufacturing Co., The.
Walworth Mfg. Co.

Steam Specialties.
Berry Engineering Co.
Buffalo Forge Co.
Butterworth, H. W., Sons Co.
Crosby Steam Gage & Valve Co.
Sargent's Sons, C. G., Corp.
Sturtevant, B. F., Co.
Textile Finishing Machinery Co.
Walworth Manufacturing Co.

Steam Traps.
American Blower Co.
Buffalo Forge Co.

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Steel Frame Construction.
Scaife, W. B., & Sons.

Stencil Machines.
Bradley, A. J.

Stop Motion for Knitting Machines.
Boss Knitting Machine Works.

Stop Motion for Looms.
—See Warp Stop Motions.

Superheaters, Foster.
Power Specialty Co.

Swatch Books.
Dangel, H., & Co.

Tanks, Tubs and Vats.
Cypress Lumber Co.
Hall, Ames H., Son & Co.
Hopkins Machine Works.
Textile Finishing Machinery Co.
Tolhurst Machine Works.
Scaife, W. B., & Sons.
Stearns, A. T., Lumber Co.
Woolford, G., Tank Mfg. Co.

Tapes, Braids and Edgings.
Beacon Narrow Fabric Co.
Chapin, George W.
Friedberger-Aaron Mfg. Co.
Krout & Fite Mfg. Co.
Maurer, F. W., & Sons Co.
Weimar Bros.
Wick Narrow Fabric Co.

Telephones.
Pettes & Randall Co.

Temples.
Draper Co.

Textile Schools.
—See Schools.

Tiering Machines.
Economy Engineering Co.

Top Cutting Machines.
Robinhold Machine Co.
Wildman Mfg. Co.

Trimming Machines.
American Raveler Co.

Trade Mark Stamps.
Kaumagraph Co.

Trucking.
Export Trucking Co.

Trucks.
Bailey, Frank.

Turbines.
—See Water Wheels.

Turning Points.
Dickinson, T. L.

Twine.
American Mfg. Co.
Plymouth Cordage Co.
Richardson Bros.

Twisting Machinery.
Jefferson, Edward & Brother.
Lowell Machine Shop.
Smith & Furbush Machine Co.

Valves.
Crosby Steam Gage & Valve Co.
Jolly, J. & W.
Walworth Mfg. Co.

Variable Speed Transmission.
Cell Drier Machine Co.
Reeves Pulley Co.

Ventilating Apparatus.
American Blower Co.
American Moistening Co.
Berry, A. Hun.
Buffalo Forge Co.
Carrier Air Conditioning Co. of America.
Crocker-Wheeler Co.
Drouve, G., Co.
Parks, G. M., Co.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Tolhurst Machine Works.
Sargent's, C. G., Sons.
Schnitzler, Chas. H.
Sturtevant, B. F., Co.
Walworth Mfg. Co.

Warp Compressors.
Worcester Warp Compressing Machine Co.

Warpers.
Draper Company.
Entwistle, T. C., Co.
Lowell Machine Shop.

Warping and Beaming Machinery.
Altemus, J. K.
Draper Company.
Entwistle, T. C., Co.
Smith & Furbush Machine Co.

Warp Stop Motions.
American Textile Appliances Co.
Draper Company.
Kip-Armstrong Co.

Washers (Cloth).
American Laundry Mchy. Mfg. Co.
Arlington Mch. Works (Arthur Birch, prop.)
Birch, Arthur, Arlington Mch. Works.
Birch Bros., Somerville Machine Wks.
Butterworth, H. W., & Sons Co.
Hunter, Jas., Machine Co.
Kenyon, D. R., & Son.
Philadelphia Drying Machinery Co.
Textile Finishing Machinery Co.

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Ford, J. B., Co.

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Nanz, T., Clock Co.
Pettes & Randall Co.

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Dodge Mfg. Co.
Hungerford & Terry.
Scaife, W. B., & Sons Co.

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Dodge Mfg. Co.
Ford, J. B., Co.
Hungerford & Terry.
Scaife, W. B., & Sons Co.

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Water Wheel Governors.
Woodward Governor Co.

Water Wheel Harness.
Dodge Mfg. Co.

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Risdon-Alcott Turbine Co.
Smith, S. Morgan, Co.

Winders (Cotton, Woolen and Worsted).
Altemus, J. K.
Easton & Burnham Machine Co.
Foster Machine Co.
Leigh, Evan A.
Lever, Oswald, Co.
Lindsay, Hyde & Co.
Lowell Machine Shop.
Payne, Geo. W., & Co.
Universal Winding Co.

Winders (Back).
Taylor, James.

Winders (Hosiery).
Altemus, Jacob K.
Easton & Burnham Machine Co.
Foster Machine Co.
Leighton Machine Co.
Lowell Machine Shop.
Payne, G. W., & Co.
Universal Winding Co.

Wood Preserving Paints.
Carbolineum Co.

Wood Pulleys.
Dodge Mfg. Co.
Saginaw Manufacturing Co.

Wool.
Schofield, Edwin F.
Stoddard, Haserick, Richards & Co.

Wool Cleaning Compound.
Ford, J. B., Co.

Wool Combing Machinery.
Crompton & Knowles Loom Works.
Jefferson, Edward & Brother.
Leigh, Evan A.
Riley, C. E., Company.
Stoddard, Haserick, Richards & Co.

Wool Oil Compound.
Burckhardt & Co.
Danker & Marston.

Wool and Waste Dusters.
Jefferson, Edward & Brother.
Leigh, Evan A.
Sargent's, C. G., Sons.
Schofield, Wm., Co.
Smith & Furbush Machine Co.

Woolen and Worsted Machinery.
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American Tool & Machine Co.
Arlington Mch. Works (Arthur Birch, prop.)
Birch, Arthur, Arlington Mch. Works.
Birch Bros., Somerville Machine Wks.
Butterworth, H. W., Sons Co.
Crompton & Knowles Loom Works.
Curtis & Marble Machine Co.
Fales, L. F.
Firth, William, Co.
Gessner, David.
Hood, R. H., Company.
Hunter, Jas., Machine Co.
Jefferson, Ed., & Bro.
Kenyon, D. R., & Son.
Leigh, Evan A.
Lombard Machine Co.
Lowell Machine Shop.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Riley, C. E., Company.
Sargent's, C. G., Sons.
Schofield, Geo. L.
Schofield, William, Co.
Smith & Furbush Machine Co.
Stoddard, Haserick, Richards & Co.
Textile Finishing Machinery Co.
Tolhurst Machine Works.
Whittle, James H., Co.
Woonsocket Machine & Press Co.
Worcester Warp Compressing Machine Co.

Wool Oils.
Borne, Scrymser Co.
McKerrow, H. G., Co., Ltd.

Wool Shoddies.
Collings, Taylor & Co.
Slack, Wm. H. H., & Bro.

Wool Washing, Preparing and Drying Machinery.
Hunter, Jas., Machine Co.
Jefferson, Edward & Brother.
Leigh, Evan A.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Riley, C. E., Company.
Sargent's, C. G., Sons.
Smith & Furbush Machine Co.
Stoddard, Haserick, Richards & Co.
Tolhurst Machine Works.

Wringers (Power).
American Wringer Co.

YARN, THRE ADS, ETC.

Banding.
Sternberg, Fred, & Co.
Toohey, M. J., & Co.

Cotton Yarns.
Ballou Yarn Co.
Catlin & Co.
Chapin, Geo. W.
Charles, W. B.
Eddy & Street.
Germania Dye Works.
Grant Yarn Co.
Greene & Daniels Mfg. Co.
Harding, Whitman & Co.
Jenckes Spinning Co.
Littauer, Ludwig.
Mitchell, Jas. E., & Co.
Montgomery, J. R., Co.
Monument Mills.
Orswell Mills.
Salkeld, A. D., & Bro.
Sternberg, Fred, & Co.
Swoyer, J. D.

Flax, Hemp, Jute and Ramie.
Duncan & Youngs.
Fawcett, Hughes.
Littauer, Ludwig.
Sternberg, Fred, & Co.

Gassed Yarns.
Ballou Yarn Co.
Greene & Daniels Mfg. Co.
Harding, Whitman & Co.
Littauer, Ludwig.
Lorimer, E. D.
Queensbury Mills.
Sternberg, Fred, & Co.

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Harding, Whitman & Co.
Littauer, Ludwig.
Lorimer's, Wm. H., & Sons Co.
Orswell Mills.
Salkeld, A. D., & Bro.
Sternberg, Fred, & Co.

Harness Twine.
Ballou Yarn Co.
Fawcett, Hughes.
Sternberg, Fred, & Co.

Hosiery and Knitting Yarns.
Boyer, B. F., Co.
Cannon Mills.
Century Cotton Mills.
Chapin, George W.
Greene & Daniels Mfg. Co.
Harding, Whitman & Co.
Hyde, E. S.
Littauer, Ludwig.
Jenckes Spinning Co.
Maryland Wool & Cotton Exchange.
Mitchell, James E., & Co.
Monument Mills.
Sternberg, Fred, & Co.

Mercerized Yarns.
Harding, Whitman & Co.
Littauer, Ludwig.
Lorimer, E. D., & Co.
Montgomery, J. R., & Co.
Sternberg, Fred, & Co.

Mohair Yarns.
Harding, Whitman & Co.
Littauer, Ludwig.
Montgomery, J. R., & Co.

Novelty Yarns, Tinsels, Silk Noils, Etc.
Jenckes Spinning Co.
Littauer, Ludwig.
Montgomery, J. R., & Co.
Queensbury Mills.
Sternberg, Fred, & Co.

Silk Yarns.
Chapin, Geo. W.
Cheney Bros.
Eddy & Street.
Ryle, Wm., & Co.
Sauquoit Silk Mfg. Co.

Woolen and Merino Yarns.
Boyer, B. F., Co.
Easton Rapids Woolen Mills.
Eddy & Street.
Hyde, E. S.
Jenckes Spinning Co.
Littauer, Ludwig.
Salkeld, A. D., & Bro.
Solis, Andrew J., Jr., & Co.

Woolen Yarns.
Littauer, Ludwig.
McCook, Walter.
Swoyer, J. D.

Worsted Yarns.
Boyer, B. F., Co.
Campion, Richard.
Harding, Whitman & Co.
Littauer, Ludwig.
Queensbury Mills.
Pocasset Worsted Co.
Salkeld, A. D., & Bro.
Swoyer, J. D.

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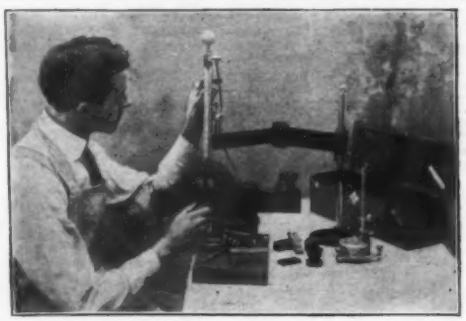

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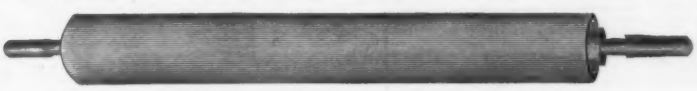

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Brick building and machinery for $5,000. Must be sold. Apply Walkerton Hosiery Co., Walkerton, Canada.

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A corporation manufacturing Latch Needles for hosiery machines, having no representative in New York City or Philadelphia, desires to arrange with responsible firm dealing in mill supplies, to handle its products in this territory. Address W. L. N. care Textile World Record, Boston, Mass.

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Address Demonstrate, care Textile World Record, Boston, Mass.

Wanted: Machinist

Familiar with all details of Textile Machinery, preferably hosiery and glove knitting machines. State reference, age and salary expected. Address "References," care Textile World Record, Boston, Mass.

Wanted, Capable Man.

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3 Luther reels, complete, 60 spindles each, 54 in. reel.

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Providence, R. I.

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Situations Wanted.

The following advertisements are a portion of those of superintendents and overseers, of whom full particulars are on file at this office. Manufactu ers who may be in need of such men may address them in care of Textile World Record, Boston, or state their requirements directly, and the addresses of suitable men will be furnished without charge.

Mr. C. T. Donlevy, a practical mill overseer and superintendent, who has a wide acquaintance with mill men, gives special attention to this department. He would be pleased to hear from any of his friends who may be interested. Address Textile World Record, 144 Congress St., Boston, Mass.

COTTON SUPERINTENDENTS.

Assistant Superintendent of a cotton mill or superintendent of a small mill; worked on print, hosiery yarns, corduroys, yarns 10s to 90s, carded and combed, also familiar with fancy weaving; familiar with Lowell cards, drawing, fly frames and spinning, Platt, Nasmith, Hetherington combers, Lowell, Lewiston, Crompton, Draper, Whitin and Lyall looms; will not go West, South or Canada; 30 years of age, single; good reference. 4219, Textile World Record, Boston, Mass.

Superintendent of a Cotton Mill, assistant superintendent, overseer of weaving or designer; worked on drills, sheetings, ducks, fine lawns and fancies; 34 years of age, married; good reference; 4217, Textile World Record, Boston, Mass.

Supt., Asst. Supt. or overseer of carding; position wanted by a man 39 years of age, married, American; is experienced on all kinds of cotton colored goods, long or short stock, also on bleached stock; is familiar with Colvin, Whitin and Crompton looms, and all makes of carding and spinning machinery; good references. 3585, Textile World Record, Boston, Mass.

Agent or Superintendent of a cotton mill; position wanted by a man, 40 years of age, American, married; familiar with fancy, colored and plain goods of all kinds; familiar with all kinds of cotton machinery; has been overseer for a number of years in first class mill; could take a position at short notice; good reference. 3814, Textile World Record, Boston, Mass.

Agent or Superintendent of a cotton mill; worked on all classes of cotton goods, white and colored, plain and fancy; familiar with all makes of cotton machinery used in the above goods; prefers New England or New York State; 45 years of age, married; good reference. 4603, Textile World Record, Boston, Mass.

Superintendent or assistant superintendent of a cotton mill; 44 years of age, married; has worked on ginghams, shirtings, fancy dress goods, turkey red, damask, cotton warp and fancy yarns for woolen mills; 23 years of practical experience and is familiar with all kinds of machinery used in the manufacture of the above goods; will not go West or South; good reference. 4501, Textile World Record, Boston, Mass.

Superintendent of a Cotton Mill or position as overseer of mule and ring spinning, spooling, warping and twisting; worked on prints, hosiery, sale yarns, sheetings and dress goods; familiar with all modern makes of machinery; good reference; 45 years of age, married. 4694, Textile World Record, Boston, Mass.

Assistant Superintendent in a cotton mill or position as overseer of carding or spinning. Worked on all kinds of cotton goods, wool mixes, ginghams, tickings, denims, linings, etc. Familiar with all makes of cotton machinery. Has had a number of years experience in different departments in mills, machine shops, engineering, weaving, carding and spinning. Good reference. Will go any place for a good position. 4609, Textile World Record, Boston, Mass.

Superintendent of a Cotton Mill. Worked on drills, ducks, sateens, lenos, American, Sea Island and Egyptian cottons. Familiar with all makes of American and English machinery. 40 years of age, married. Good reference. 4597, Textile World Record, Boston, Mass.

Superintendent of a cotton or worsted mill or boss weaver in a large mill; worked on all kinds of cotton and worsted dress goods and men's wear, novelties of all kinds; practical loom fixer, designer, etc.; familiar with Crompton & Knowles box looms, dobbies, jacquards, etc.; also Bridesburg and Woods looms; 42 years of age, married; good reference. 4145, Textile World Record, Boston, Mass.

WOOLEN SUPERINTENDENTS.

Superintendent and Designer; worked on worsteds, fancy cassimeres, worsted dress goods, thibets, overcoatings, kerseys and broadcloths; familiar with all kinds of machinery; will not go West, South or Canada; 47 years of age, married; good reference. 4232, Textile World Record, Boston, Mass.

Superintendent, Assistant or a position as boss weaver; worked on suspender, elastic and non-elastic webbing, name labels, webs, all narrow fabrics, also ginghams and lenos; familiar with Crompton & Knowles, Kilburn, Lincoln, Whitin, Draper, Mason, Schaum & Uhlinger looms; good reference; 40 years of age, married. 4129, Textile World Record, Boston, Mass.

Superintendent or Designer; worked on men's wear, ladies' dress goods, fancy vestings and piece dye worsteds; familiar with all makes of machinery; will go anywhere for a good position; 36 years of age, married; good reference. 4157, Textile World Record, Boston, Mass.

Agent or Superintendent of a worsted or woolen mill, 45 years of age. Worked on all kinds of woolen goods from cheviots to fine cassimeres, worsteds and cotton worsteds. Familiar with all makes of woolen mill machinery. Could take a position at once. Good reference. 4576, Textile World Record, Boston, Mass.

Superintendent of Worsted Yarn Mill, or overseer of drawing and spinning. Understands carding and combing hosiery yarns, camel hair, alpaca, botany crossbreds and fine weaving yarns, 30 years of age, good reference. 4697 Textile World Record, Boston, Mass.

Superintendent or Manager of woolen mill; position wanted by a man 47 years of age, married, Scotch; is experienced on worsteds, fancy cassimeres, homespuns, meltons, thibets, kerseys, overcoatings, cheviots and dress goods; is familiar with all kinds of woolen machinery; good references 3619, Textile World Record, Boston, Mass.

Superintendent of woolen mill; was in business for himself for years; he is now open for a position; age 52, married; first class references from commission houses. 3227, Textile World Record, Boston, Mass.

Worsted Superintendent or overseer of combing, spinning and twisting; worked on mohair, alpaca, all foreign and domestic wools; familiar with all kinds of machinery; first class references; age 45, married. 3248, Textile World Record, Boston, Mass.

Superintendent or assistant of a woolen or worsted yarn mill; worked on fancy and piece dye worsteds, men's wear, thibets and overcoatings; has a good knowledge of blending stock, also a good knowledge of designing; familiar with all makes of woolen and worsted machinery, American and foreign; 26 years of age, married; good reference. 4593, Textile World Record, Boston, Mass.

Manager, superintendent or designer; age 30, English, married; experienced in England and in this country; mohairs, all classes of worsted suitings, plain and fancy dress goods. 3184, Textile World Record, Boston, Mass.

Manager, Agent, Supt. or supt. and designer; position wanted by a man 57 years of age, English, married; has worked on all classes of woolen and worsted goods in fancy and piece dyes, from the finest to the coarsest goods; familiar with all kinds of machinery; has exceptionally good references; could take a position at once. 3705, Textile World Record, Boston, Mass.

KNITTERS.

Superintendent of an Underwear Mill or Lamb machine foreman; worked on full fashioned underwear, also lines of cut goods for the retail trade; familiar with Lamb & Wildman knitting machines and Singer, Wheeler & Wilson, Union Special and Reece makes of machinery; 30 years of age, married; good reference. 3856, Textile World Record, Boston, Mass.

Overseer of Knitting; worked on all fleece work, elderdowns, merino nets, cottonets, jerseys, buffalo cloths and astrachans; familiar with Tompkins, Campbell & Clute, Gormley and Crane machines; does not understand ribbed or latch needle machines; will not go South or Canada; good reference; 30 years of age, married. 4671, Textile World Record, Boston, Mass.

Overseer of Knitting or hosiery machine fixer or foreman in the finishing department; position wanted by a man 25 years of age, single; has worked on fine cotton and mercerized hosiery; would prefer a position on Jenckes Invincible machines, but has a good knowledge of Scott & Williams, Wildman, Geo. D. Mayo, Acme and Brinton footers. 4541, Textile World Record, Boston, Mass.

Superintendent or assistant superintendent in hosiery mill; worked on all kinds of hosiery from 108 to 240 needle work; cotton, wool, worsted and lisle: Acme, Geo. D. Mayo, Invincible, Brinton, Root, Scott & Williams, and all makes of loopers; will not go to Maine, New Hampshire, Vermont or Canada; good reference; 27 years of age, married. 4134, Textile World Record, Boston, Mass.

Overseer of Knitting or second hand on latch needle machines; worked on ladies' Swiss ribbed vests, ladies' shaped vests and men's derby ribbed underwear, familiar with Lamb, Scott & Williams and Wildman machines; will not go West or South; good reference; 21 years of age, single. 4666, Textile World Record, Boston, Mass.

Overseer of Knitting or assistant superintendent in a hosiery mill; worked on all classes of seamless hosiery from coarse wool and cotton to fine cassimeres and lisle; familiar with Mayo, Victor, Electric, Campbell, Scott & Williams, 3/4 automatic, Brinton, 3/4 and full automatic and different makes of ribbers and loopers; prefers a position in Massachusetts; 28 years of age, married; good reference. 4650, Textile World Record, Boston, Mass.

Superintendent of a Ribbed Underwear Mill, assistant superintendent or overseer of finishing in a large mill. Worked on men's, ladies', children's underwear and government and merino knit underwear. Familiar with all makes of machinery. 38 years of age, married. Good reference. 4677, Textile World Record, Boston, Mass.

Superintendent of a Knitting Mill or would accept position as boss finisher; worked on flat, ribbed, fleece lined from yarn to finished garment, balbriggans, sweaters and full fashioned; familiar with all classes of machinery to make above goods; 31 years of age, American, married; good reference. 4192, Textile World Record, Boston, Mass.

Overseer of Knitting. Worked on fleece lined, flat or ribbed goods on Scott & Williams, Pepper, Brinton latch needle and Tompkins Bros., Campbell & Clute and Gormley Bros. spring needle machines; good reference, 35 years of age, married. 4114 Textile World Record, Boston, Mass.

Overseer of Knitting in a small mill or second hand in a large mill. 22 years of age, single. Worked on balbriggans, single and double, and fleece lined. Familiar with Tompkins, Campbell & Clute and Payne winders. Could take a position at short notice. Good reference. 4539, Textile World Record, Boston, Mass.

Superintendent of a knitting mill, or assistant in large mill; worked on men's and women's ribbed goods and men's flat goods; familiar with all kinds of sewing machines used in knitting mills and clothing factories; Scott & Williams, Wildman, Nye & Tredick, Crane, Esty and Branson knitting machines; 30 years of age, married; will not go to R. I. or N. J.; good reference. 4185, Textile World Record, Boston, Mass.

DESIGNERS.

Designer on all Classes of Worsted Dress Goods and men's wear. Good reference, 25 years of age, single. 4117 Textile World Record, Boston, Mass.

Designer, Assistant or superintendent; worked on woolens, cotton worsteds, raincloths, coverts, panamas, unions and very fine worsteds; familiar with all makes of machinery used in worsted mills, spoolers, winders, dressers, twisters and Crompton & Knowles looms; will not go South, Canada or west of Chicago; 44 years of age, married; good reference. 4144, Textile World Record, Boston, Mass.

Designer; worked on wool and worsted goods, overcoatings, piece dyes, cotton and worsted serges, resists and manipulated fabrics; will not go West, South or Canada; good reference; 34 years of age, married. 4128, Textile World Record, Boston, Mass.

Designer, Assistant Designer or overseer of weaving. Has worked on the best classes of tweeds, overcoatings, wool and worsteds. 29 years of age, married. Two workers in the family. Scotch. Good reference. 4625, Textile World Record, Boston, Mass.

Designer. A married man, 26 years of age. Worked on woolens, cassimeres, worsteds and cotton worsteds. Would like an interview with any manufacturer in need of a first class man. Good reference. 4512, Textile World Record, Boston, Mass.

Assistant Superintendent, assistant designer, pattern weaver, or salesman for textile machinery. Position wanted by a man 26 years of age, single. Has worked on woolens and worsteds. Is also a graduate of the Lowell Textile School, three years' course. Understands all kinds of machinery. Good reference. 4571, Textile World Record, Boston, Mass.

SUPERINTENDENTS AND DESIGNERS.

Superintendent and Designer; position wanted by a man 30 years of age, English; has worked on all kinds of fancy cotton goods, and is familiar with all kinds of cotton looms; good references. 3682, Textile World Record, Boston, Mass.

Superintendent and Designer, or assistant superintendent; age 34, married; worked on cloths ranging from all cotton to all wool and worsteds, such as cotton worsteds, jeans, army cloths, kerseys, etc.; excellent references. 3148, Textile World Record, Boston, Mass.

Superintendent and Designer, or assistant superintendent or boss weaver in a woolen mill; position wanted by a man 36 years of age, American, married; worked on all kinds of woolen and worsted goods, also blankets; understands all kinds of machinery; has worked in all departments of a mill; good references. 3845, Textile World Record, Boston, Mass.

Superintendent and Designer; position wanted by a man 38 years of age; married; worked on men's wear fancy worsteds, cotton worsteds, overcoatings and dress goods; good references. 3056, Textile World Record, Boston, Mass.

Assistant Superintendent and assistant designer; position wanted by a man 27 years of age, German; has worked on fancy cassimeres, overcoatings and dress goods; is familiar with Crompton & Knowles looms; good references. 3681, Textile World Record, Boston, Mass.

Designer, Assistant Superintendent or superintendent in a small woolen or worsted mill; worked on medium and high grade men's wear, woolens and worsteds; woolens as low as 60c. per yard and worsteds as high as $3.00 per yard; understands all makes of machinery; prefers New England; 31 years of age, married; good reference. 4669, Textile World Record, Boston, Mass.

Designer or Superintendent; 31 years of age, English; worked on all kinds of woolen and worsted men's and women's wear; familiar with the English and American looms; good reference. 4556, Textile World Record, Boston, Mass.

SPINNERS.

Overseer of Mule Spinning, spooling, warping, slashing, twisting, winding or reeling; worked on cloth and yarn, both coarse and fine counts, 8s to 100s; familiar with most all kinds of machinery; will not go West, South or Canada; 48 years of age, married. 4229, Textile World Record, Boston, Mass.

Overseer of Spinning; worked on all grades of woolens from 1 to 9 run, and woolen, shoddy and cotton mixes; familiar with Johnson & Bassett makes of machinery; will not go to Pa., South or Canada; 46 years of age, married; good reference. 4227, Textile World Record, Boston, Mass.

Overseer of Spooling, warping, twisting, slashing, beaming, or a good second hand position; worked on coarse and fine counts, and all classes of cotton goods; familiar with the Lowell, Draper, Howard & Bullough, Entwistle, Foster, Universal, Easton & Burnham and open and close wind machines; will go anywhere for a good position; 30 years of age, married, English; good reference. 3380, Textile World Record, Boston, Mass.

Overseer of Spooling, warping or slashing; worked on plain and fancy goods and 30s to 100s; familiar with the Draper, Whitin, Lowell, Entwistle, Howard & Bullough makes of machinery; will not go to Pa., N. Y., N. J., West, South or Canada; 26 years of age, married; good reference. 4221, Textile World Record, Boston, Mass.

Overseer of Drawing and Spinning in a worsted mill. Worked on alpaca, long and short wools. Familiar with all makes of drawing and spinning machinery. Will not go South. 38 years of age, married. Good reference. 4614, Textile World Record, Boston, Mass.

Overseer Worsted Spinning, twisting and reeling or carding, combing and drawing. Worked on botany crossbred wools and mixes, also fancy yarns, on Prince & Smith, Hall & Stell, Lowell, Taylor, Wordsworth & Co. machines; 35 years of age, married, good reference. 4699 Textile World Record, Boston, Mass.

Overseer of Spinning; worked on all wool, wool, cotton and shoddy, all shoddy on men's wear and ladies' dress goods; can handle any kind of stock that is used in a woolen mill; familiar with Davis & Furber makes of machinery; will not go to New Jersey, West, South or Canada; 42 years of age, married; good reference. 4126, Textile World Record, Boston, Mass.

Overseer of Ring Spinning, spooling, warping, slashing, twisting, cone-winding, reeling, etc.; worked on all kinds of yarn, numbers ranging from 4s to 120s, Egyptian and American cotton, also colored work; familiar with all makes of American ring frames, twisters, beam or ball warpers. Broadbent's, Foster's, Payne's, Camless, the new Universal Cone Winders, Skein Spoolers, etc.; will not go to Vermont, Pennsylvania, New York, New Jersey, West, South or Canada; 32 years of age, married; has two second hands of ring spinning in family; good reference. 4171, Textile World Record, Boston, Mass.

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The most practical, surest, and quickest way in the world for ambitious textile workers to secure promotion is offered by an institution through whose assistance thousands of men have already advanced to better positions and larger salaries. They have done this in their own homes, in their spare time, and at an insignificant cost. We will cheerfully explain, free of charge, how we can adapt our plan to **YOUR** personal needs and income if you will write us today, stating the position you would like to secure.

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WEAVERS.

Overseer of Weaving; worked on fancy worsteds, cotton worsteds, men's wear, and dress goods of all kinds; familiar with Crompton & Knowles looms; will go anywhere for a good position; 31 years of age, single. 4218, Textile World Record, Boston, Mass.

Overseer of Weaving in a cotton mill; worked on plain twills, drills, sheetings, ducks, shirtings and hair cloth; familiar with Mutual, Crompton & Knowles looms; will not go to Mass., R. I., Conn., Me., N. H., Vt., West or Canada; 42 years of age, married; good reference. 4212, Textile World Record, Boston, Mass.

Overseer of Weaving; worked on woolens, worsteds and plain and fancy dress goods; can handle burling, sewing, specking and drawing-in; will not go South, or to Canada; 44 years of age, married; good reference. 4216, Textile World Record, Boston, Mass.

Overseer of Weaving. Worked on plain and fancy white and colored goods, checks, shirtings, sheetings, lawns, duck, silk and cotton goods; good reference, 40 years of age, married, all kinds of looms. 4108 Textile World Record, Boston, Mass.

Overseer of Woolen or Worsted Weaving. Worked on wool and worsted, also cotton worsted goods; familiar with Crompton & Knowles looms, good reference, 36 years of age, married, will not go to Canada. 4119 Textile World Record, Boston, Mass.

Overseer of Weaving or dressing in a woolen mill. 40 years of age, married. Worked on fancy cassimeres, worsteds, cheviots, worsted piece dyes, ladies' dress goods and blankets. Familiar with the Crompton & Knowles looms. Will not go West, South or Canada. Good reference. 4589, Textile World Record, Boston, Mass.

Overseer of Cotton Weaving; worked on plain sateens, crepe, fancy shirtings, Bedford cord, checks, lappettes, lenos and coarse and fine goods; familiar with all makes of looms; will not go West or South; good reference; 28 years of age, married. 4120, Textile World Record, Boston, Mass.

Overseer of Woolen or worsted weaving; worked on fancy woolens and worsteds; familiar with Crompton & Knowles and Crompton Thayer looms; 31 years of age, single; will not go West, South or Canada; good reference. 4142, Textile World Record, Boston, Mass.

Overseer Cotton Weaving or Second Hand in a large mill. 33 years of age, American. Worked on plain and fancy lenos, sateens, twills, etc. Familiar with the Whitin, Colvin, Mason, Crompton & Knowles and Draper looms. Good reference. Will not go West or South. 4514, Textile World Record, Boston, Mass.

Overseer of Weaving and designing in a woolen mill. Might accept a position as loom fixer at good wages. 34 years of age, single. Worked on men's wear, ladies' dress goods, cotton warp, blankets, etc. Familiar with the Crompton & Knowles looms. Good reference. 4583, Textile World Record, Boston, Mass.

Overseer of Woolen Weaving. 33 years of age, married. Worked on woolen and worsteds, cotton worsteds and dress goods. Familiar with the Crompton & Knowles looms. Will not go West, South or Canada. Good reference. 4507, Textile World Record, Boston, Mass.

Overseer of Weaving or dressing in a small woolen mill. Worked on wool and worsted goods. Familiar with the Knowles loom and different makes of dressing machines. 42 years of age, English, married. Good reference. 4594, Textile World Record, Boston, Mass.

Overseer of Woolen or worsted weaving in a small or loom fixer in a large mill. Worked on worsted and woolen goods. Familiar with the Knowles loom. Good reference. 38 years of age, married. 4600, Textile World Record, Boston, Mass.

Overseer of Weaving; position wanted by a man 42 years of age, American, married; worked on all kinds of woolen and worsted goods; familiar with Crompton & Knowles and Crompton & Thayer and Jacquard looms; first class recommendation. 3694, Textile World Record, Boston, Mass.

CARDERS.

Overseer of Woolen Carding; worked on all grades of high and low stock; familiar with all kinds of cards; two sewers and a pattern weaver in the family; will not go to Me. or N. H.; 40 years of age, married; good reference. 4223, Textile World Record, Boston, Mass.

Overseer of Woolen Carding; position wanted by a man 47 years of age, American, married; has handled all kinds of stock, cotton, wool and shoddy mixes on yarns from 1 to 6 run; has been employed for a number of years in leading mills; first class reference. 3815, Textile World Record, Boston, Mass.

Overseer of Woolen or worsted carding; would accept a position as superintendent of a felt mill; understands the business in every detail; worked on all kinds of stock and all makes of cards; first class reference; will go any place for a good position; 45 years of age, American, married. 3470, Textile World Record, Boston, Mass.

Overseer of Carding or spinning in a cotton yarn mill; worked on combed, Egyptian, Sea Island, peeler, Georgia and American cotton; all makes of carding and combing machinery; will not go South or Canada; good reference; 32 years of age, single. 4132, Textile World Record, Boston, Mass.

Overseer of Cotton Carding. 50 years of age, married. Worked on white and colored cotton goods. Has had 25 years of experience as overseer. Good reference. Prefers a position in the New England states. 4515, Textile World Record, Boston, Mass.

Overseer of Woolen Carding. Worked on goods made from wool shoddy and cotton mixes on D. & F., Lombard, Cleveland, Smith cards; prefer New England states, good reference, 50 years of age, married. 4695 Textile World Record, Boston, Mass.

Overseer of Wool Carding. 37 years of age, married, American. Worked on fine and coarse woolen goods, cotton, wool and silk noils and mixes. An exceptional good man on low stock. Familiar with D. & F. and Cleveland cards. Good reference. 4522, Textile World Record, Boston, Mass.

Overseer of Carding in cotton mill; position wanted by a man 39 years of age, single; worked on all kinds of cotton goods, Sea Island, combed and carded, from 24s up to 150s; familiar with American and English carding machinery; good references. 3941, Textile World Record, Boston, Mass.

Overseer of Carding or spinning in a cotton mill; position wanted by a man 39 years of age, married, American; worked on white and colored goods; familiar with Whitin and Lowell machines; will not go to Canada, New York, New Jersey or New England States; good references. 3997, Textile World Record, Boston, Mass.

Overseer of Woolen Carding or carding and spinning; worked on all kinds of woolen, cotton and shoddy mixes; familiar with all makes of carding machinery, D. & F., J. & B., and Bancroft mules; could take a position at once; good reference. 4603, Textile World Record, Boston, Mass.

Overseer of Woolen Carding and spinning; worked on fancy cassimeres, tweeds, all grades of woolen goods, made from wool, cotton and shoddy mixes; familiar with Davis & Furber mules and all makes of cards; would accept a position anywhere where there is a healthy climate; 45 years of age, married; good reference. 4615, Textile World Record, Boston, Mass.

Overseer of Woolen Carding; worked on all kinds of woolen goods also cotton ,wool and shoddy mixes; familiar with all makes of carding machinery; will go any place for a good position; good reference; 35 years of age, married. 4606, Textile World Record, Boston, Mass.

Overseer of Woolen Carding. Worked on all kinds of woolen goods, made from wool, cotton and shoddy mixes. Familiar with all makes of woolen carding machinery. Good reference. 46 years of age, single. 4685, Textile World Record, Boston, Mass.

Overseer of Woolen Carding. 36 years of age, American, married. Worked on all kinds of woolen shoddy and cotton mixed goods. Familiar with the different American makes of carding machinery. Will not go to Penn., West, South or Canada. Good reference. 4577, Textile World Record, Boston, Mass.

FINISHERS

Overseer of Finishing, or second hand; worked on woolen and worsted broadcloths, carriage cloths, sackings, cloakings and cheap cassimeres; familiar with Parks & Woolson, Davis & Furber, and other makes of machinery; will not go West, South or Canada; 34 years of age, married; good reference. 4220, Textile World Record, Boston, Mass.

Overseer of Finishing or charge of shears; worked on woolens and worsteds; familiar with all kinds of machinery; 49 years of age, married; good reference. 4230, Textile World Record, Boston, Mass.

Beetle Finisher; worked on all kinds of cotton goods, plain and fancy; familiar with the Phoenix make of machines, also the Granger; will go any place for a good position; 40 years of age, married; good reference. 4222, Textile World Record, Boston, Mass.

Overseer of Finishing; worked on wool, cotton and shoddy, fancy cassimeres, kerseys, meltons, dress goods, piece dyes, carriage and uniform cloth; familiar with all kinds of machinery; 55 years of age, married; good reference. 4213, Textile World Record, Boston, Mass.

Overseer of Woolen and Worsted Finishing. Worked on piece dyes, worsteds, cassimeres, cross dyes, carriage cloths, face finished goods and blankets. Familiar with all makes of finishing machinery. Prefers the Middle West. Good reference. 36 years of age, married. 4670, Textile World Record, Boston, Mass.

Second Hand in woolen or worsted finishing room, overseer of burling, and sewing or finished percher. Worked on fancy and plain worsteds, woolens, cotton worsteds, broadcloths, kerseys, beavers, meltons and dress goods. Understands most all makes of finishing machinery. 33 years of age, married. Good reference. 4665, Textile World Record, Boston, Mass.

Overseer of Spooling, twisting and winding in a thread or linen mill. Familiar with all makes of winding and spooling machines. Good reference. 30 years of age, single. 4667, Textile World Record, Boston, Mass.

Overseer of Finishing, overseer of burling and sewing or finished percher. 30 years of age, married. Worked on wool and worsted piece dyes. Familiar with all makes of finishing machinery. Good reference. 4588, Textile World Record, Boston, Mass.

Overseer of Woolen Finishing. Position wanted by a married man, 50 years of age. Has had a wide experience in leading mills on all classes of woolen and worsted goods. Is an expert on broad cloths or kerseys. Good reference. Could take a position at once. 4527, Textile World Record, Boston, Mass.

Overseer of Woolen Finishing from loom to case; 50 years of age, married; worked on all kinds of worsted and woolen goods, particularly face finished high lustre woolens; familiar with all kinds of finishing machinery; will not go West, South or Canada; good reference. 4564, Textile World Record, Boston, Mass.

Overseer of Woolen or Worsted Finishing. Worked on worsteds, cotton worsteds, woolen men's wear and dress goods; familiar with all makes of finishing machinery; will not go to Penn., West, South, or Canada; good reference, 48 years of age married. 4692 Textile World Record, Boston, Mass.

Overseer of Finishing; worked on all classes of woolen goods, broadcloths, cassimeres, dress goods, kerseys, beavers and worsteds; familiar with all makes of finishing machinery; will not go South or Canada; good reference; 29 years of age, married. 4626, Textile World Record, Boston, Mass.

Overseer of Finishing or second hand in a worsted mill; worked on fancy worsted piece dyes and dress goods; familiar with all makes of finishing machinery; good reference; 40 years of age, single. 4640, Textile World Record, Boston, Mass.

MISCELLANEOUS.

Overseer of Cotton or woolen dressing; 47 years of age, married, American; worked on all classes of woolen and cotton goods, both plain and fancy; familiar with all makes of machines used in dressing departments in either a cotton or woolen mill; good reference. 4509, Textile World Record, Boston, Mass.

Master Mechanic, chief engineer or traveling salesman; position wanted by a man 45 years of age, married; has worked on all classes of engines, boilers and electricity; first class draftsman; could take a position at short notice; good reference. 4540, Textile World Record, Boston, Mass.

Sewing Machine Fixer or machinist; position wanted by a married man, 31 years of age; is familiar with all makes of Union Special, National, button-hole and Singer sewing machines; would prefer a position in New York State; good reference. 4551, Textile World Record, Boston, Mass.

Master Mechanic or Assistant. Worked on all kinds of cotton mill machinery and repairs; good reference, 28 years of age, married. 4118 Textile World Record, Boston, Mass.

Overseer of Bleaching, or assistant superintendent in a bleach and dye works. Worked on all kinds of goods, cotton, wool and silk underwear, familiar with all makes of machines, 36 years of age, single. Good reference. 4690 Textile World Record, Boston, Mass.

Overseer or Superintendent of Worsted Combing. Worked on all kinds of wools, long and short, on all makes of American, English and French combs; good reference from leading firms where employed, 37 years, married. 4101 Textile World Record, Boston, Mass.

Fixer on Ribbed Hosiery. Understands Brinton, Wildman, Crane, Pepper, Acme and Mayo machines, good reference, 23 years of age. 4112 Textile World Record, Boston, Mass.

Overseer of Worsted Combing or carding and combing. Worked on 1/4, 3/8 and 1/2 blood, fine Australian, mohair, camel hair and English luster wool; Taylor & Wordsworth & Co., Hoyle & Preston, Crompton & Knowles' combs and all kinds of gill boxes; 38 years of age, married, good reference. 4115 Textile World Record, Boston, Mass.

Master Mechanic or Chief Engineer in cotton or woolen mill. Understands all kinds of machinery, has had extensive practical experience on work that comes under a master mechanic, good manager of help, good reference, married, 43 years. 4107 Textile World Record, Boston, Mass.

Cloth Examiner in Commission House. Experienced on all classes of worsted and woolen goods, first class reference, 32 years of age, strictly temperate. 4104 Textile World Record, Boston, Mass.

Comber Man. Position wanted by a man 24 years of age; single; has worked on the Hetherington, Whitin, Nasmith, Dobson & Barlow combers. Wants a position in Massachusetts or Rhode Island only. 4085, Textile World Record, Boston, Mass.

Sewing Machine Fixer. Position wanted by a man, 25 years of age, single. Familiar with Wheeler & Wilson, single and double needle, button and buttonhole machines, also Wilcox & Gibbs and Union Special. Will not go West, South or Canada. Good reference. 4573, Textile World Record, Boston, Mass.

Overseer of Beaming, quilling or warp gassing. Position wanted by a man 44 years of age, married, English. Familiar with fancy cotton and silk beaming. Understands all makes of machinery used in the department. Good reference. 4560, Textile World Record, Boston, Mass.

Overseer of Slashing, spooling, warping, drawing and long chain beaming. 42 years of age, widower. Worked on white and colored. Work from 8s to 100s cotton. Familiar with all kinds of machines. Good reference. Will go any place for a good position. 4572, Textile World Record, Boston, Mass.

Overseer of Seaming; position wanted by a man 27 years of age, married; has worked on ladies' cotton hose and all grades of cotton underwear; is familiar with Willcox & Gibbs, Hepworth, Campbell & Clute stitching, welting, looping, etc., machines; good references. 3683, Textile World Record, Boston, Mass.

MISCELLANEOUS.

Overseer of Wool Sorting or wool grader; worked on all kinds of wool, both foreign and domestic; 44 years of age, married; will not go West, South or Canada; good reference. 4214, Textile World Record, Boston, Mass.

Knitting Machine Fixer; worked on lisle, mercerized, woolen and cotton goods; familiar with the Geo. D. Mayo, Acme, Jenckes, looping machines and ribbers; will not go to R. I., Me., Vt., N. J., West or South; 23 years of age, single; good reference. 4225, Textile World Record, Boston, Mass.

Overseer of Burling and Sewing, or would accept a position as finisher in a fancy worsted mill; worked on fancy worsteds, woolens, cotton worsteds and dress goods of all kinds; familiar with all kinds of finishing machinery; will not go to Pa., N. Y., N. J., West, South or Canada; good reference; 35 years of age, married. 4226, Textile Weorld Record, Boston, Mass.

Overseer Worsted Combing; position wanted by a man 38 years of age, married; has worked on all classes of wools; is familiar with the Crompton & Knowles "Nobles Combs," Taylor & Wordsworth and all kinds of gill boxes; good references. 3903, Textile World Record, Boston, Mass.

Master Mechanic; position wanted by a man 44 years of age; has had experience as master mechanic in cotton and knitting and all textile mills; will not go West or Canada; could take a position at short notice. 3782, Textile World Record, Boston, Mass.

Overseer Boarding and finishing hosiery; all kinds of men's, women's and children's hosiery, except silk; age 41, American, married; can furnish references. 3035, Textile World Record, Boston, Mass.

Overseer of Tenter Frames in cotton mill; position wanted by a man 44 years of age, married, Scotch; has worked on sateens, lawns, mull skirtings and shirtings; is familiar with Butterworth, Stewart and Granger tentering frames; good references. 3651, Textile World Record, Boston, Mass.

Overseer of Beetling Department; position wasted by a man 43 years of age, married, Irish; has had ten years' experience on cotton goods in this country, 12 years' experience on linen goods in Ireland; has worked on cotton goods of all counts from 67 by 72 to 96 by 32, also handled all kinds of beetling machines; will not go South or Canada; good reference. 3807, Textile World Record, Boston, Mass.

Second Hand in Knitting Mill; position wanted by a man 21 years of age, American; worked on all kinds of goods on latch needle machines; familiar with the following makes of knitting machines: Nye & Tredick, McMichael & Wildman, Scott & Williams, H. Brinton & Co., Stafford & Holt; could take a position at two weeks' notice; good references. 3976, Textile World Record, Boston, Mass.

Overseer of Combing; position wanted by a man 27 years of age, married, English; has worked on men's wear and fancy dress goods; is familiar with Noble combs of all makes, Crompton, Taylor, Wadsworth, Smith and Prince; good references. 3617, Textile World Record, Boston, Mass.

Competent Cost Accountant; position wanted by a young man at present with firm of business economists; desires an executive connection with large manufacturing concern who are in need of a thoroughly wide awake man with executive ability and wide experience in textile and other lines and one who will guarantee to lower the cost of production in a large measure; good reference. 4558, Textile World Record, Boston, Mass.

Second Hand in woolen card room; married man, 32 years of age; worked on all kinds of stock, cotton, wool and shoddy mixes; good reference from leading mills; could take a position at once. 4532, Textile World Record, Boston, Mass.

Overseer of Beaming, slashing, spooling, long chain quilling and warping; worked on fancy shirtings, silk and cotton coat linings, ginghams, awnings, tickings and denims; familiar with the Lowell, Phillip, Howard & Bullough, Draper and Entwistle machines; two workers in the family; 40 years of age, married; good reference. 4617, Textile World Record, Boston, Mass.

DYERS.

Overseer of Dyeing; worked on all kinds of woolen and worsted yarns, wool slubbing, worsted piece dyes, kerseys, cloakings, cheviots, tricots, friezes, all wool and union cotton yarns, raw cotton, shoddy and camel hair; familiar with Klauder-Weldon yarn and wool machines and all kinds of piece dye machines; will not go West or South; 46 years of age, married; good reference. 4224, Textile World Record, Boston, Mass.

Overseer of Dyeing; worked on worsted, cotton and woolen yarns, sulphur dyes, cotton warps, raw wool and cotton, fancy worsteds, piece dyes, alizarine and fast colors on resist dyed worsteds, broadcloths, silks, ladies' and men's wear; familiar with all makes of machinery used for the manufacture of every description of men's and ladies' wear; will not go West, South or Canada; 39 years of age, single; good reference. 4215, Textile World Record, Boston, Mass.

Overseer of Dyeing; worked on worsteds, chromate and chrome top colors, broadcloths, dress goods, kerseys, meltons, thibets, worsted and cotton yarn; understands the latest methods of dyeing in alizarine acid colors, union dyeing and chromatic; familiar with all kinds of machinery; will go anywhere for a good position; 33 years of age; good reference. 4228, Textile World Record, Boston, Mass.

Overseer of Dyeing; worked on wool, cotton, yarn, piece, chromate colors and resist piece dyes; good reference; 43 years of age, married. 3506, Textile World Record, Boston, Mass.

Overseer of Dyeing, mercerizing or finishing or superintendent of a bleach and dye works. Worked on cotton and wool piece dyes, skein dyeing and warps; also raw stock. Good reference. 34 years of age, married. 4647, Textile World Record, Boston, Mass.

Overseer of Dyeing. Worked on all classes of woolen goods, cassimeres and ladies' dress goods. Strong on unions. 50 years of age, married. Could take a position at once. N. E. States only. 4654, Textile World Record, Boston, Mass.

DYERS.

Overseer of Dyeing. Worked on worsted yarns, fancy serges, mohair, slubbing and resist colors. All makes of machinery. Prefers New England. 28 years of age, married. Good reference. 4627, Textile World Record, Boston, Mass.

Overseer of Dyeing in a woolen mill. 28 years of age, single. Worked on piece dyes, skein yarns, slubbing, raw stock, underwear, carriage cloths and rags. Understands all kinds of machinery. Good reference. 4555, Textile World Record, Boston, Mass.

Overseer of Dyeing. Worked on broadcloths, carriage and casket cloths, cassimeres, raw stock, underwear and sweaters. Familiar with all makes of machinery. 27 years of age, married. Good reference. 4630, Textile World Record, Boston, Mass.

Overseer of Dyeing. Worked on yarns, piece dyes, raw stock, wool, cotton and shoddy mixes, also slubbing. Familiar with different makes of dyeing machinery. Will not go West, South or Canada. 38 years of age, married. Good reference. 4629, Textile World Record, Boston, Mass.

Overseer of Dyeing. Worked on wool, cotton and shoddy, mixes, raw stock, piece dyes, yarns, carbonizing and scouring. Good reference. 35 years of age, married. 4658, Textile World Record, Boston, Mass.

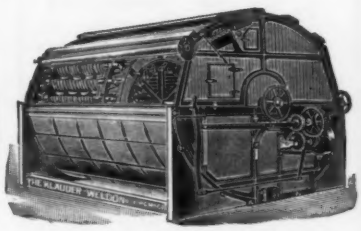
Boss Dyer; worked on cotton and wool and mixed stock, yarns and piece goods, hosiery, slubbing and raw stock; also scouring of wool; first class recommendations; 28 years of age, single, English. 3327, Textile World Record, Boston, Mass.

Overseer of Silk Dyeing. Worked on all kinds of silk yarn and piece dyeing. Would accept a position in two weeks' notice. 35 years of age, married. Good reference. 4616, Textile World Record, Boston, Mass.

Overseer of Dyeing. A man 46 years of age, married. Worked on knit underwear, woolens, yarns, etc. Familiar with all kinds of machinery. Good reference. 4511, Textile World Record, Boston, Mass.

RAW WOOL AND COTTON MACHINE.

MACHINES
sold on
2 MONTHS' TRIAL
YOU
TAKE
NO
RISK

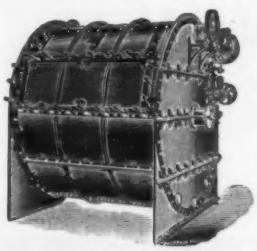


SKEIN AND SLUBBING MACHINE.

THE KLAUDER-WELDON DYEING MACHINE COMPANY

P. O. Box K, AMSTERDAM, N. Y.

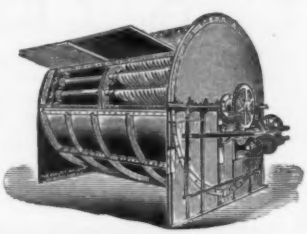
Machines for Dyeing, Bleaching and Scouring Woolen, Worsted, Cotton and Silk Skeins—Slubbing—Raw Cotton and Wool, Waste, Rags, Shoddy, Hosiery, Underwear, Hats, Caps, Knit Cloth, Tapes, etc.



SULPHUR HOSIERY MACHINE.

Special Machines for Sulphur Colors

WILL EARN THEIR COST IN
LABOR ALONE
IN FROM
6 TO 12 MONTHS
ACCORDING TO CAPACITY



SULPHUR SKEIN MACHINE.

Alike in Appearance Only

Powdered sugar and flour look alike. One imparts sweetness, the other does not. In appearance other sodas resemble

Wyandotte Textile Soda

but in work, none do. If you are not using Wyandotte Textile Soda you cannot appreciate how much real economical assistance you might be getting which you are not.

Order from your supply house.

None Genuine except with card bearing this Trade Mark

In Every Package.

The J. B. Ford Co., Wyandotte, Mich.

Sole Manufacturers

THIS SODA HAS BEEN AWARDED THE HIGHEST PRIZE WHEREVER EXHIBITED.

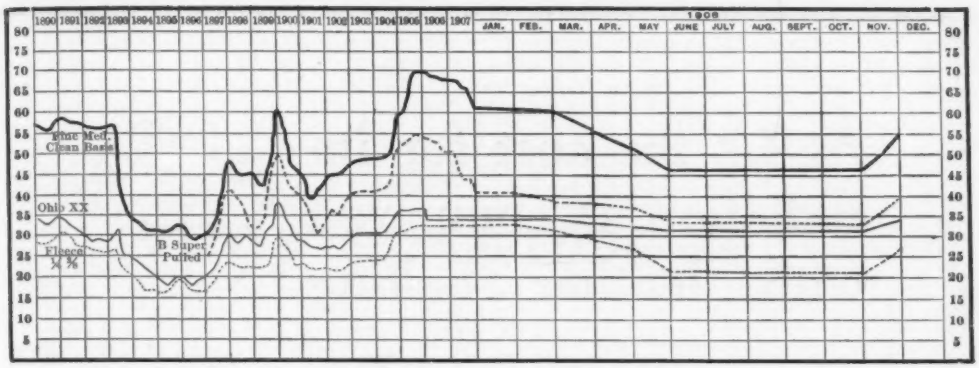


CHART SHOWING RANGES IN THE PRICE OF WOOL TO DATE.

The Wool Market.

That wool is a highly speculative commodity has been strikingly illustrated since election. Prices have advanced sharply and a scramble has prevailed among dealers and manufacturers for desirable lots. This spurt has been aided by the boom in foreign markets. Just before the recent advance on this side American wool was very near the exporting point. The rise in prices has changed this position and buyers in foreign markets for American account have during the past few weeks been taking desirable lots at the market. As this issue goes to press there is a lull in the domestic wool market. Both sides are resting and the general opinion is that the whirl upwards has been overdone. The revision of the tariff is ignored and the trade is counting on everything coming out all right. One dealer voiced the prevailing sentiment by the remark: "The tariff will be revised by sensible men in the House and Senate and signed by a sensible man in the White House." The wool trade has nothing to fear from any action likely to be taken on the tariff. The wool goods market is sharing in the general improvement and on all sides there is the belief that a good business will develop in all lines of wool goods.

James Remick was elected as one of the board of directors of the New England Cotton Yarn Company's mills at a meeting recently held. He succeeds Eben S. Draper, Governor-elect of Massachusetts.

John H. Halferty has accepted a position as overseer of weaving at the Belle Vue Mills, Clinton, Mass., succeeding Fenton Newcomb, who resigned.

Fred G. Grant, cloth examiner at the Globe Woolen Company, Utica, N. Y., has accepted a similar position in the wholesale clothing house of Robert Wicks Company.

Edward P. Dempsey has accepted a position as overseer of weaving at the Fabyan Woolen Company, Stafford Springs, Conn. He was formerly employed at the Mann & Stevens Woolen Company, East Brookfield, Mass.

Michael Rourke, overseer of finishing at the Linn Woolen Mills, Hartland, Me., has resigned. His successor is Thos. T. Somerville, formerly employed at Vassalboro, Me.

J. Edgar Smyth has been elected president of the Watts Mill, Laurens, S. C., succeeding W. D. Hammett. Mr. Smyth has been assistant to his father in the management of the Pelzer Mills, Pelzer, S. C.

Walter Bickford, employed in the finishing department at the Oakland Woolen Company, Oakland, Me., was seriously injured while at work in that department, having a large tub fall on him. He was attended by Dr. C. H. Witherall.

J. W. Shaw has taken the management of the Forest City Woolen Company, Zanesville, Ohio.

William Northrop, boss wool sorter at Peacedale, R. I., has resigned.

John Battye, formerly overseer of dyeing at the Oakland Woolen Company, Oakland, Me., has severed his connection to accept a similar position with the Sutton Mills, North Andover, Mass.

John F. Leonard, overseer of dyeing at the Amos Abbott Company, Dexter, Me., has resigned and will accept a similar position with the Oakland Woolen Company, Oakland, Me.

Andrew Martin, formerly overseer of ring spinning at the Warren Cotton Mills, West Warren, Mass., has accepted a similar position with the Great Falls Mfg. Company, Somersworth, N. H.

Mr. McConnell has accepted the superintendency of the Danielson Cotton Company, Danielson, Conn. He formerly held the position as paymaster at the Totakett Mill, Occum, Conn.

James C. Reid has accepted a position as manager of C. Bischoff & Company, importers and dealers in dyestuffs, and is to represent them in the South. He was formerly manager of the Meridian Cotton Mills, Meridian, Miss.

At 2/5 the cost for installation as compared with leather belting

Plymouth Manila Rope Drives

are far more effective safer and cost much less for maintenance

Plymouth Rope Drives by their absence of slip, steadiness, freedom from electrical disturbances, great durability and low cost make the ideal drive for textile mills.

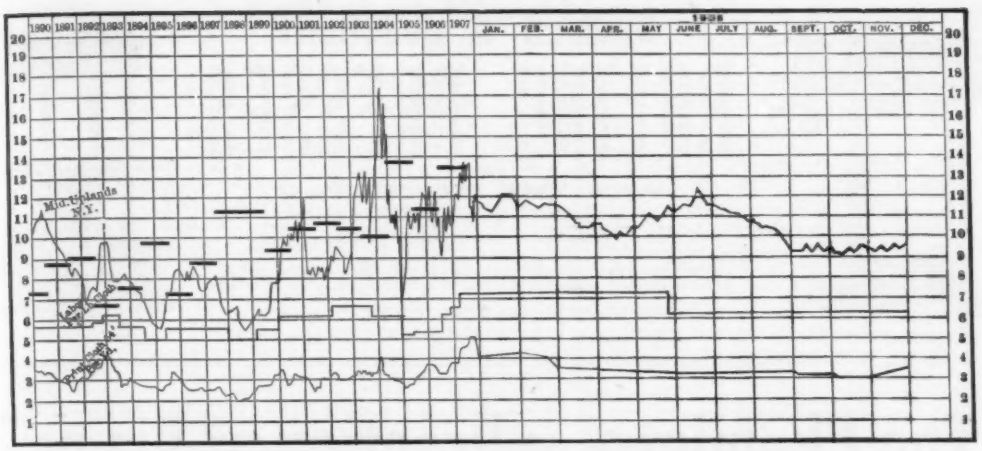
If you are about to build or remodel your mill you may be confronted with the problem of carrying your power to a distance or in a direction out of line with the driving shaft. In such cases the advantage of the rope drive will be manifest. Distance and direction make no difference to the efficiency of this system.

Put your transmission problems up to us. Our long experience in manufacturing, installing and using rope drives is at your service. Let us tell how much they will save in your mill.

Send for our booklet on "Rope Driving."

Plymouth Cordage Co.

North Plymouth, Mass.



The short, heavy, horizontal lines indicate the size of the cotton crops in millions of bales.

CHART SHOWING RANGE IN THE PRICE OF COTTON TO DATE.

The Cotton Market.

The prices for raw cotton have been kept from going higher by the heavy movement into sight, which indicates plainly that a large if not a record crop is coming to market. Another depressing factor is the dullness of foreign trade. This has been made plain by the failure of a two months' curtailment of production in Lancashire to bring about any indications of an improvement. Nevertheless cotton will be used as well as grown in large quantities, and the organized movement on the part of the Southern planters to restrict the acreage and hold cotton for higher prices must be reckoned with. The movement into sight from Sept. 1 to Nov. 27 is reported by the "Chronicle" for a series of years as follows:

1908, Nov. 27	6,042,698
1907, Nov. 27	4,498,088
1906, Nov. 30	5,688,972
1905, Dec. 1	5,408,159
1904, Dec. 2	6,162,816
1903, Dec. 4	5,309,166

The world's visible supply on Nov. 27 is estimated by the same authority at 4,408,065 bales, as compared with 3,837,546 bales on corresponding date in 1907; 4,355,031 bales in 1906; and 4,677,474 bales in 1905.

Wilber L. Litchfield has been promoted to take charge of the local office of the Bigelow Carpet Company, Clinton, Mass. Among his duties will be paymaster of the company, succeeding in that office Francis H. Sawyer. Mr. Sawyer will still be retained in the office.

J. D. Hamilton has accepted a position as overseer of carding at the Hanover Woolen Mfg. Company, Hanover, Ill. He was formerly employed at the Columbiaville Woolen Mills, Columbiaville, Mich.

J. C. Werner, superintendent of the Broad Brook Company, Broad Brook, Conn., is to sever his connection January 1st to accept a position as agent of the Moosup Mills, American Woolen Company, Moosup, Conn.

Benjamin Armitage, designer for the Broad Brook Company, has been appointed superintendent to succeed J. C. Werner.

Desire Thiebault has accepted a position as loom fixer at the Stanley Mills, Uxbridge, Mass. He was formerly employed at Woonsocket, R. I.

Frank Hines has accepted a position in the dressing department with Geo. E. Kunhardt, Lawrence, Mass.

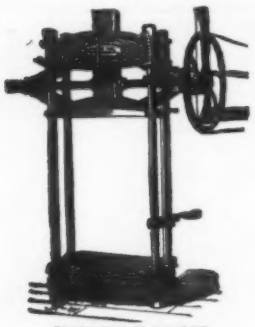
William Oldham has severed his connection with the Vassalboro Mills, in the finishing department, at North Vassalboro, Me.

Arthur Mott has secured a position in the office of the Wauregan Company, Wauregan, Conn. He was formerly employed at Norwich, Conn.

WEIMAR BROS. MANUFACTURERS OF Cotton Mercerized Tapes,

SPOOL TAPES, BINDINGS AND NARROW FABRICS FOR UNDERWEAR AND OTHER TRADES.

Phone Connections. Works, 2046-48 Amber Street, PHILADELPHIA, PA.



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BOOMER & BOSCHERT

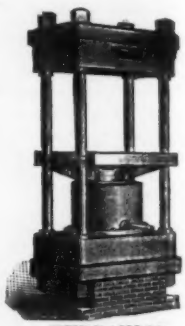
BALING PRESSES

ARE THE STANDARD

Hydraulic or Knuckle Joint
Any Size .. Any Power

Boomer & Boschert Press Co.

338 West Water S., SYRACUSE, N. Y.
Southern Agent, A. H. WASHBURN, Charlotte, N. C.



HYDRAULIC.

"The Chemistry AND Practice of Sizing"

BY

PERCY BEAN, F.C.S., M.Ph.S.,

Expert on Sizing, Dyeing and Finishing. (Author of "The Chemistry and Practice of Finishing")

AND

F. SCARISBRICK,

President of the Blackburn and District Manager's Association, Silver Medallist for Manufacturer, City and Guilds, London.

The first edition of this work was published in January, 1903 and was immediately followed by an edition specially printed for India. These two editions were sold out within twelve months of publication, the demand in England being such that no copies were sent to the United States for sale and but very few have since found their way here.

The most complete and exhaustive work on this subject ever published.

The authors of this book have exceptional qualifications for the work. The present edition has been completely rewritten and brought up-to-date, necessitating the addition of about 200 pages.

Full descriptive circular sent free on request.

The size of the book is 6 x 9, 586 pages, 53 illustrations, 10 plates.

We are the American Agents.

Price, Express Prepaid, $10.00.

LORD & NAGLE COMPANY,

144 Congress Street, BOSTON, MASS.

LOOK!

THE BRANDEN RUBBER PUMP VALVE
Will Outlast Three Ordinary Valves.

Made for hot or cold water or any fluid where rubber valves are used. By its construction will outlast several ordinary valves. A trial will demonstrate the truth of our statements.

JOHNSTONE BLOW-OFF VALVE. A most durable and useful valve.

Pressure and Vacuum Gages. Pop Safety Valves.
Steam Engine Indicators. Whistles, Lubricators, Etc., Etc.

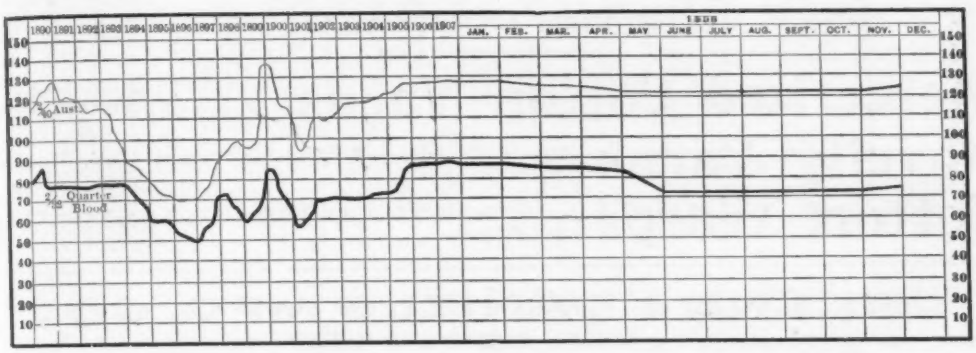
CROSBY STEAM APPLIANCES ARE UNEXCELLED.

CROSBY STEAM GAGE AND VALVE CO.,

Stores: Boston, New York, Chicago, London.

Office and Works: BOSTON, MASS.

Yarn Department.



GRAPHIC CHART SHOWING RANGE IN THE PRICE OF COTTON YARN TO DATE.

The Cotton Yarn Market.

There has been a decided improvement in the yarn market during the past few weeks. The improvement has been most marked in weaving yarns, on which the price has advanced from 2 to 3 cents per pound. The demand for weaving yarn has been exceptionally good, and the prospects are for a continued demand, with a possibility of still higher prices.

Business on knitting yarns has not been quite so active, and the prices have not reacted to the same extent as on weaving yarn. The demand, however, has been improving, advanced prices being quoted on new orders. There has been a rush on the part of jobbers and retailers to replenish stock on all lines of textile fabrics, and a number of buyers are anticipating deliveries on orders already placed.

Cotton has advanced steadily during the past week, and there is no sign of a break in the market.

Prices are about as follows:

6s	17
8s	17
10s	17½
14s	18½
16s	19
18s	19½
20s	20
22s	20½
24s	21
26s	21½
30s	22
34s	23
36s	25
40s	26

On cones, ¾c. more up to 14s; 1c. more from 15s to 22s; 1 1½c. from 23s to 35s, and 2c. above that.

Eastern Two-Ply Skeins, Carded Peeler.

12s	20
14s	20½
18s	22
20s	23
24s	23½
26s	24
30s	25
36s	28
40s	29
45s	33
50s	36
55s	39
60s	44

Eastern Two-Ply Warps, Carded Peeler.

2/30s	25
2/36s	28
2/40s	29
2/45s	33
2/50s	36
2/60s	44

Egyptian Weaving Yarns.
Single Skeins Combed.

30s	35
36s	37
40s	38
45s	40
50s	45
55s	48
60s	52
70s	57

The Philadelphia Market.

7s and coarser	17
8s and 9s	17
10s	17½
12s	18
14s	18½
16s	19
18s	19½
20s	20

THE J. R. MONTGOMERY CO.,

Windsor Locks, Conn.

MANUFACTURERS OF

Mercerized Cotton Yarns Gives the High Silk-Like Lustre in Knit Goods and Woven Fabrics.

Novelty Yarns Boucle, Bourette and Spirals, in Cotton, Wool, Worsted, Mohair and Silk.

Cotton Warps on Beams, Jack Spools and Tubes. In Fancy, Twist, Colors and Printed.

GREENE & DANIELS MFG. CO.,

COMBED, CARDED AND GASSED

Yarns, Threads, Twines and Chain Warps.

DYE SULPHUR BLACKS DIRECT IN COPS, CONES OR TUBES.

Colored and Bleached Yarns Furnished in any manner desired by the trade.

Pawtucket, R. I.

MONUMENT MILLS,

Manufacturers of

White, Colored, Fancy and Double Twist

COTTON WARPS

HOUSATONIC, MASS. 4s to 60s.

M. J. TOOHEY & CO., OF FALL RIVER, MASS.

Banding made from Egyptian or White Cotton Yarn as Desired.

The Other Fellows Banding.

The Merwin Paper Company

Hartford, Conn.

Press Papers and Fender Boards

Correspondence Solicited

Mills at Rainbow, Conn. Address Inquiries to Rainbow, Conn.

22s	20½
24s	21
26s	21½
30s	22
40s	27
50s	35

Southern high grade mule yarn:—

Cones.

10s	18½
12s	19
14s	19½
16s	20¼
18s	20¾
20s and 22s	21¼-21¾
24s	22¼

Southern frame yarn, lower grades:—

6s and 8s	16
10s	16½

Eastern cones (high grade quality):—

10s	19½
12s	20
14s	20½
16s	21¼
18s	21¾
20s and 22s	22¼-22¾

Skein yarn (mostly Southern):—

4s and 8s soft	16
10s and 12s	16½
14s to 20s	17-18
22s	18½
10/2	17
16/2	18
20/2	20
30/2	22
40/2	27
16/3 slack	18½
12/3 slack	18
7/6 skein	16½
8/3 carpet	16
8/3 slack	16½
9/4 slack	16½

Warps (Southern):—

10s to 12s	17½
14s	18
16s	18½
20s to 22s	19-19½
26s	20
14/2	18½
16/2	19
20/2	20
24/2	21
30/2	22
40/2	27

Mixed colored yarns (mock twist, half colors):—

6s to 10s	18-18½
12s to 14s	19-20
16s to 18s	20½-21

Mock Egyptian, 2c. advance over white.

Egyptian, 5 to 6c. above the best quality white.

JAMES E. MITCHELL CO., COMMISSION MERCHANTS.
Cotton Yarns
AND COTTON CLOTHS.
122-124 Chestnut Street, PHILADELPHIA, PA.
73 Leonard Street, NEW YORK.
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CATLIN & CO.,
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345 Broadway, NEW YORK.
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COTTON AND WORSTED YARNS.
BOSTON. NEW YORK. PHILA.
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COMMISSION MERCHANTS
DEP'T. FRED'K VIETOR & ACHELIS
COTTON YARNS
66-72 LEONARD STREET - - NEW YORK

Fred Sternberg & Co.
530 Broadway, - NEW YORK.
MERCERIZED TURKEY RED GASSED } COTTON YARNS.

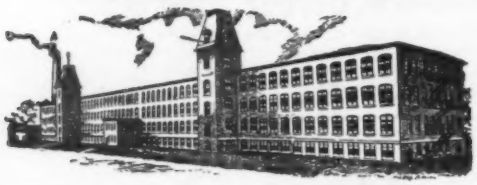
LUDWIG LITTAUER,
SUCCESSOR TO
MOELLER & LITTAUER, 109 Greene St., New York
SILK, WORSTED, WOOLEN YARNS COTTON AND MOHAIR
Polished Threads and Tinsel. Artificial or Wood Silk.
Mercerized, Turkey Red, Fine Gassed Yarns.
SILK MILL, BOONVILLE, N. Y.

High Grade Hosiery Yarn
White and Colors. All Numbers. Sewing Twines on Cones and Tubes
SPECIALTIES IN WEAVING YARN
Black and White. Double and Twist for Woolen Trade.
CANNON MILLS 53-5 Worth Street, New York
Philadelphia Office, 205-7 Chestnut St.

GRANT YARN CO.,
COMBED AND CARDED COTTON.
YARNS 40's and above.
AND
FITCHBURG, MASS. WARPS

G. T. Crocker, Pres. W. F. Stiles, Treas.

ORSWELL MILLS



Fitchburg, Mass.

Capacity, 45,000 Spindles.

HIGH GRADE YARNS

From Egyptian and Peeler Cottons, Carded or Combed, in Chains and Skeins, on Balls, Beams, Spools, Cops, Cones, Tubes, Single or Twisted.

Cotton Yarns

Jenckes Spinning Company
Pawtucket, R. I.

Carded and Combed single and twisted Yarns and Threads from Peeler, Sea Island and Egyptian Cottons, on Cops, Cones and Tubes or in Skeins and Warps. Six Cord Thread Yarns a Specialty **Bleached or in colors**

We are successfully dyeing cotton yarns on parallel tubes and cops and would be pleased to send a sample to interested parties.

Dyeing, Coneing, Twisting and Tubeing of Cotton, Woolen and Worsted Yarns.
Dyers of Cotton Warps, and Hosiery in Fast Black and Colors.

Cross-Dye Colors a Specialty.
Yarns Furnished on Dresser Spools.
Dealers in All Kinds of Yarn for the Trade.

Germania Dye Works
MAX SARFERT, Prop,
Kensington & Allegheny Aves., Philadelphia.

Ballou Yarn Co.

PROVIDENCE. R. I.

Harness and Seine Twines and other Job Gassing, Winding, etc. All Numbers

GASSED YARN SPECIALTIES

C. M. Blaisdell, Pres. and Treas. G. A. Blaisdell, Vice-Pres. and Sec'y.
Established 1860—Incorporated 1893.

THE S. BLAISDELL, JR., CO.,

COTTON, EGYPTIAN PERUVIAN

American Long Staple a Specialty. Shipments direct to mill from Egypt, Peru and all American Southern Points.

CHICOPEE, MASS.

Cotton Waste Purchased on Yearly Contract from Mills.

Century Cotton Mills

Manufacturers of

Hosiery Yarns

Nos. 10s to 30s Sell Direct

South Boston - - - Virginia

Beacon Narrow Fabric Co.

Braids & Tapes

Notre Dame St. FALL RIVER, MASS.

MARYLAND WOOL AND COTTON EXCHANGE
906-908 Streeper St., Baltimore, Md.

High Grade Hosiery and Weaving Yarns all colors.

Operating Well Equipped Bleachery, Dyehouse, Spool, Cone and Twist Mill.

EDDY & STREET,
Cotton, Woolen

Yarns and Braids

Worsted, Spun Silk.

PROVIDENCE, R. I.

KROUT & FITE MANUFACTURING CO.,

Manufacturers of

Silk, Cotton and Mercerized Narrow Fabrics

SPOOL TAPES A SPECIALTY.

Telephone Connection. Office and Mill, Allegheny Ave. and Emerald St., PHILADELPHIA.

A. L. Bart has accepted a position as overseer of weaving at the cotton mill at Douglasville, Ga. He was formerly employed at the Aragon Mills, Aragon, Ga.

James R. MacColl, president of the River Spinning Company, Woonsocket, R. I., was elected president of the Home Market Club, succeeding George M. Wells, at Southbridge, Masss., at a meeting held in Boston, November 18th. Mr. MacColl was for two years president of the New England Cotton Manufacturers' Association.

William Buckley, who has had charge of the spinning department of the Standard Hosiery Company, Philadelphia, ever since it was started by them about a year ago, has accepted a position with a Canadian mill, his position with the Standard Hosiery Company having been filled by James Butterworth, formerly with the Germantown Spinning Company, who is now in charge.

Herman Groetzner, overseer of dyeing at the Rock Mfg. Company, Rockville, Conn., has severed his connection with that company.

John Walmsley, engineer at the Butler Mill, New Bedford, Mass., has severed his connection with that company.

Harold Welch, assistant master mechanic at the Waverly Mills, Pittsfield, Mass., has severed his connection with that company.

Wilfred Robertshaw has been promoted to the position of overseer of spinning. He formerly held the position in charge of cone winding at the Arlington Miills, Lawrence, Mass.

Lewis A. Anderson, superintendent of the Oneko Woolen Mills, New Bedford, Mass., has severed his connection with that company to accept a similar position with H. T. Murdock & Company, Proctorsville, Vt.

Ivar Vorg, overseer of dyeing at the Sterling Mills, Lowell, Mass., who is held in high esteem by his employers and employes, was given a surprise November 21st, it being his thirty-eighth birthday. He was presented with a handsome smoking set, the presentation speech being made by Carl Erickson, his second hand.

John Martin, employed at the Monument Mill, Great Barrington, Mass., in the bleaching department, was badly burned about the face, hands and body, having lost his balance while putting in a frame of potash mixture into one of the vats. He was removed to the Pittsfield Hospital.

John W. Rollinson, overseer of weaving at the Phoenix Woolen Company, Stafford, Conn., underwent an operation on November 18th. Although his life was despaired of for some days, we are glad to say that he is now improving.

The picture of everything running right and making full output is the picture that we all like

RHOADS LEATHER BELTING

is good help to keep things running right. *Permanently stretched. The leather is finished not so much to give weight as strength.*

J. E. RHOADS & SONS

Philadelphia, 12 N. Third Street — New York, 40 Fulton Street
Hamblet & Hayes Co., Eastern Agents. — Boston, 105-111 Summer Street

LINEN YARN IMPORTER.

HUGHES FAWCETT, 115 Franklin Street, NEW YORK.

Flax, Hemp and Jute Line and Tow Yarns,
For Weaving Purposes.
Linen Jacquard Harness Twines,
Fine Cotton Harness and Heddle Twines,
For Cotton, Silk, Woolen and Carpet Manufacturers.
Correspondence solicited. Samples promptly furnished.

DUNCAN & YOUNGS

95 Worth Street, NEW YORK

Practical Manufacturers of

YARNS, THREADS, TWINES, CORDS, ROPE

AND MILL SUPPLIES

Anything in the line you cannot get anywhere else apply to us.

F. W. MAURER & SONS CO.

MANUFACTURERS OF

TAPES, BINDINGS, NARROW FABRICS AND EDGINGS FOR NOVELTY CURTAINS

Office, 528 Cherry St. Factories, 529 & 531 Arch St. and 524 Cherry St., and Germantown Ave. & Bristol St.
PHILADELPHIA

F. C. BARTON

65 Worth Street, New York

MANUFACTURER OF

"LILY" BRAND NARROW FABRICS
WEB, TAPE, BINDINGS, ETC.

THE BIAS NARROW FABRIC CO.

F. C. BARTON, President

65 Worth Street, New York

Bias and Straight Cut Fabrics and Ribbons.
Embossing and Cutting Customers Own Goods a Specialty.

Pocasset Worsted Company,

Worsted Yarns.

BOSTON
100 BOYLSTON STREET
TELEPHONE 19 OXFORD

NEW YORK
100 FIFTH AVENUE
TELEPHONE CONNECTION

H. HODGSON, Pres. & Treas. FRED HODGSON, Gen. Mgr.

QUEENSBURY MILLS

Mohair, Lustre and Worsted Yarns

—Single and Two Ply—

Grey—Colors on Mixtures Worcester, Mass.

French System. **B. F. BOYER CO.,** Bradford System.

MANUFACTURERS OF

WORSTED AND WOOLEN YARNS,

Office and Mill, River Ave. and Marlton St. CAMDEN, N. J.

WORSTED YARNS

RICHARD CAMPION.

SELLING AGENT FOR

Bristol Worsted Mills,
Highland Worsted Mills.

300 Chestnut Street,
PHILADELPHIA, PA.

Testing of Yarns.

Count-Twist-Strength-Moisture-Chemical Test

When in doubt apply to

NEW YORK SILK CONDITIONING WORKS

138-140-142 Spring St., New York

Woolen and Merino YARNS

Eaton Rapids Woolen Mills,

EATON RAPIDS, MICH.

Joseph D. Swoyer & Co.,

Manufacturers and Commission Merchants

Woolen, Worsted and Cotton Yarns

HOWARD AND BERKS STREETS,
PHILADELPHIA.

William B. Charles,

Amsterdam, N. Y.

Cotton Yarns, Cotton Cloth, Silesia, Sateens,

For the Underwear Trade.

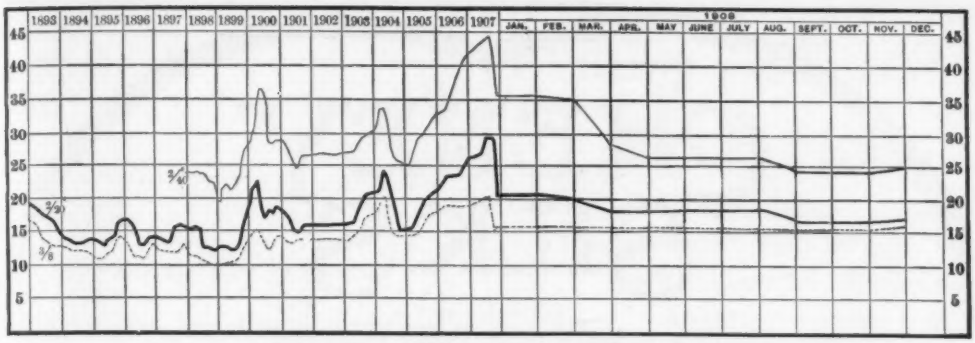


CHART SHOWING RANGES OF PRICE OF WORSTED YARNS.

The Woolen and Worsted Yarn Market.

The spinners of worsted yarns in this vicinity are very busy and in many instances the claim is made that they are sold up. The firmness of the wool market and indications of an increase in prices coupled with the fact that the election would go the right way led many manufacturers to place advance orders for yarn at prices prevailing when yarns were low. There is no doubt that the foresight of these concerns saved them much money as the spinners claim that there has been an advance on all grades of yarns of from three to five cents and they are looking forward to a further increase when the mills become busier and want more yarn.

Prices at present are very firm, particularly on fine numbers such as 2/50, 60 and 70, which are very scarce and hard to get. The spinners are making no concessions whatever on these numbers when manufacturers make inquiries for them. Single 30s and upwards are also quite scarce. There is some advance in the prices of these yarns; all the mills making them are pushed as hard for deliveries as the spinners of the finer grades. As most of the fine numbers are made by the French spinners it is very difficult to get Freench spun yarns at this time.

The woolen yarn spinners are not quite so busy, but there are certain indications in the market which lead one to believe that there will be a return to woolen yarns. If this should come about the woolen spinner will get what he has been waiting several years for, good business, but this depends entirely on how the worsted market keeps up. Should it keep firm and prices advance as they are at the present time, then the manufacturers will have to turn to woolen yarns to make cheaper fabrics.

The dress goods mills are very busy and in many instances commission work is being given out to enable them to fill their orders. It is said that many large orders for yarn from this branch of the weaving trade have been placed within the past few weeks. Duplicate orders on fall business have been great, and all indications point to the fact that for spring goods there will be a very good demand, but mostly for very fine cloths.

Business on men's wear goods has taken quite a boom since the election. Quite a number of good sized duplicate orders have been placed for spring fabrics and there is no doubt that a good business is ahead for the mills.

The sweater and fancy knit goods manufacturers are very busy and are placing heavy orders for yarn for immediate delivery to enable them to get out their goods. We quote as follows:

BRADFORD SPUN YARN.

2/12 to 2/16 low common	60-62½
2/26 to 2/28 common	67½-70
2/12 to 2/20 1/4 blood	70-72½
2/26 to 2/28 1/4 blood	72½-75
2/32 to 1/4 blood	77½-80
2/20 3/8 blood	82½
2/26 3/8 blood	80-82½
2/32 3/8 blood	85
2/36 3/8 blood	87½-90
2/40 1/2 blood	95-1.00
2/40 delaine	1.00-1.05
2/50 delaine	1.10-1.12½
2/40 Australian	1.17½-1.22½
2/50 Australian	1.25-1.30
2/60 Australian	1.37½-1.40
2/24 lustre	85
2/28 lustre	87½
2/30 and 3/32 lustre	90-92½
2/36 lustre	97½-1.00
1/24 worsted and 80s single cotton for raincloths	1.00
1/24 worsted and 120 single cotton for raincloths	1.10

FRENCH SPUN YARN.

1/20 1/4 blood	75-77
1/20 high 1/4	80-82
1/20 3/8 blood	90-92½
1/20 1/2 blood	93-95

CHENEY SILKS

All kinds of
Spun Silk Yarns in the Gray or Dyed. Organzines, Trams or Singles in the Gray or Dyed, on Cones, Warped or in the Hank.

16 Ounces to the Pound Pure Silk—Fast Colors Warranted

Special Yarns made to order for all sorts of Silks or Silk Mixture Goods, also special silks for electrical uses, insulation purposes, etc. Knitting Silks, Ribbons and Piece Goods for Trimming Knit Goods.

Dress Silks, Foulards, Sashes, Satins, Pongees, Plushes, Linings, Decorative Silks, Velvets, etc.

Manufacturers' orders promptly executed.

CHENEY BROS., Silk Manufacturers
South MANCHESTER, Conn.
Salesrooms
NEW YORK, 477 Broome St. PHILADELPHIA, 929 Chestnut St.
CHICAGO, Heyworth Bldg. SAN FRANCISCO, Chronicle Bldg.
BOSTON, 79 Chauncy St.

WILLIAM RYLE & CO.,

Foreign and Domestic

Spun Silk Yarns and Noils.

Domestic Thrown Silk of every description. Fine Pure Dye Silks for the woolen trade a specialty. Importers of European and Asiatic Raw Silk.

54 Howard St., cor. Mercer St., NEW YORK.

SAUQUOIT SILK MFG. CO.,

INSULATING AND BRAIDING SILKS.

ORGANZINE, TRAM & HOSIERY SILKS.

Fast Dye Organzines for Woolen Manufacturers a Specialty.

Mills: Bethlehem, Pa., Phila., Pa., Scranton, Pa. New York Representatives, Wm. Ryle & Co., 54 Howard St.—Phila. Office, 4015 Clarissa St., Nicetown.—Chicago Office, 188-190 Market St.—Boston Office, 78 Chauncy St.

Crochet Lace Edgings

Spun Silk, Splicing Yarn, Mercerized Yarns, Cotton Warps, Sewing Threads, Tapes, Braids, Domets, Cambrics, Silesias.

Write for Prices and Samples.

George W. Chapin, 229-231 Church St., Philadelphia.

1/20 high 3/8	85-87
1/30 high 1/4 blood	85-90
1/30 3/8 blood	85-90
1/30 1/2 blood	95-1.00
1/40 1/2 blood	1.00-1.05
1/50 delaine	1.20
1/40 Australian	1.25
1/50 Australian	1.30
1/60 Australian	1.40
1/70 Australian	1.45

The Rag and Shoddy Market.

There has been a pronounced improvement in the demand for both rags and picked stock since our last issue. The inquiries, although resulting in small orders, have come from all branches of the trade and indicate plainly a feeling of confidence in the course of business for the immediate future. The revival came so suddenly that prices have been rather irregular during the past few weeks. Dealers have now reached a fairly uniform basis for quotations and are looking around for desirable lots with which to supply their customers when the expected duplicate orders materialize.

Wool wastes are active and higher. Many inquiries for the better grades have gone unsatisfied. The supply has been cut down by the curtailment of running time by the mills for the past year and by the increase in the practice of using up the waste where it is made .

We quote as follows:

SHODDIES AND EXTRACTS.

White yarn, best all wool	42-48
White knit, all wool, best fine	34-40
White knit, No. 2	30-36
Light yarn, extra fine	31-33
New pure indigo blue	28-30

Merino.

Fine light, all wool	26-27
Medium light, all wool	17-19
Fine black, all wool	25-30
Fine dark, all wool, best grade	20-22
Medium dark, all wool, No. 2	14-17
Red knit stock, strictly all wool	20½-22
Red flannel, all wool	
Dark blue for hosiery, strictly all wool, No. 1	19½-20
Dark blue for hosiery, not all wool, No. 2	16½-18

WOOLEN RAGS.

Fine merchant tailors	10-12½
Choice light colors	16-17½
Browns	11½-14½
Blacks	10-13
Fine blues, plain	11-12½
Fine dark	9½-13
Medium dark	6-10

Worsteds.

Blue	14½-17
Black	19-21

Knitting and Weaving YARNS.

Cones, Cops, Warps, Skeins,
Single, Double, Three-Ply, etc.
Peeler, Egyptian, Mixed Colors.
Large Assortment.

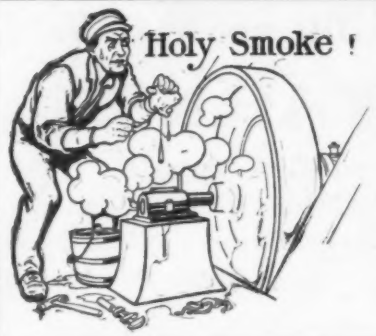
EDWARD S. HYDE,
226 CHESTNUT STREET,
Philadelphia, Pa.

EDWIN F. SCHOFIELD
Cotton Waste
IMPORT and EXPORT
45 S. 3rd St. Philadelphia

William B. Charles,
Amsterdam, N. Y., U. S. A.
Cotton and Wool Wastes
COTTON YARNS
Contracts made with Cotton and Woolen Mills for Yearly Waste Production. Correspondence solicited. Shepperson's Code, 1878. Cable Address "Charles."

SHODDY W. H. H. SLACK & BRO. SPRINGFIELD, VT.
Established 1871 **FLOCKS**

You Save Enough Insurance to Pay for the Equipment.
So it costs you NOTHING to have the AMERICAN WATCHMAN'S CLOCK. Fully approved by all insurance companies. We equip factories with Fire Alarms, Signals, etc., also Employee's Time Recorders, and Telephone Systems. Electric Time System consists of Master Regulator in office with secondary electric clocks throughout the mill, insuring accurate time. Send for particulars.
Pettes & Randall Co., 150 Nassau St., New York



Don't swear at the bearing, it's all your own fault when you have been using oil. Oil is thin when it's cold, and thinner when it's hot. To do any good, it must be supplied to the bearing in a steady stream.

Keep the bearings cool by using **NON-FLUID OILS.** Non-Fluid Oils are fine mineral oil condensed to prevent running, but containing nothing that will gum or make friction. Try **NON-FLUID OILS** once, they will save what you now pay for wasted oil. We make grades suitable for every textile mill requirement.

Free Sample by writing to the Originators and Sole Manufacturers

N. Y. & N. J. Lubricant Co., Dept. H, 14-16 Church St.

NEW YORK No. 22

Serges.

Black	10-12
Blue	11½-12½

Flannels.

New scarlet	18-20½
New blue	16½-19
Cloakings	4½-6½

SOFTS AND KNIT STOCK.

Soft woolens, best	5-5½
Old white flannels	12-13
Old red flannels	12-12½
Old blue flannels	5-6
Old plaids	7-9
White stockings	19½-22
White hood stock	20-23
Clear hoods	9½-11

Dyestuffs and Chemicals.

Acids.

Acetic, 100 lbs.	2.61-3.00
Citric, domestic	50-52
Oxalic	8-9½
Sulphuric, 66°, 100 lbs.	1.25-1.80
Muriatic, 18°	1.10-1.80
Tartaric crystals	2.64-3.00

Miscellaneous Chemicals and Dyestuffs.

Acetate of lime, gray, 100 lbs.	2.50-2.90
Alum, lump	1.72-2.48
ground	1.82-2.25
powdered	2.81-3.34
Aqua ammonia, 26°	
Ammoniac, sal., gray	
Borax, bbls.	4½-7
Brimstone, crude, ton	27-51
Copperas	60-80
Cream tartar, crystals	21-25½
Fuller's earth, powdered, ton	19-20
Glauber's salt	51-65
Potash, chlorate, crystals	11-12½
powdered	12-13
carbonate	6½-7½
Soda, bicarbonate	1.60½-1.76
Soda, caustic, domestic, 60 per cent.	1.72-1.91
Sal., American	72½-86
Vitriol, blue	5-6
Acetate of soda	4-6½
Acid, picric, best crystals	25-50
tannic, commercial	31-40
Albumen, egg	61-72
blood	24-32
Alizarine, red	17½
Aniline, oil	11-12½
salt crystals	13
Bichromate of potash, American	9-10½
Bichromate of soda	8½-9½
Bisulphite of soda	3-4
Cutch, mat	5½-7½
Dextrine, imported potato	6-10½
Divi-divi, ton	45-68

Geo. C. Eaton has accepted a position as second hand in the carding department at the Columbia Mills, Lewiston, Me. He comes from Saugus Centre, Mass.

Edwin Pickup has accepted a position as boss bleacher for the Edgemere Mfg. Company, Great Barrington, Mass.

Edmond Hocking, overseer of bleaching at the Edgemere Mfg. Company, Great Barrington, Mass., has severed his connection with that company to accept a similar position at Asheville, N. C.

R. D. Prevost, overseer of knitting at the Standard Knitting Mills, Knoxville, Tenn., has severed his connection with that company.

MILLER MANUFACTURING COMPANY

Manufacturers of

SOAPS for Textile Use, SIZINGS, OILS, Etc.

Write us for Prices.

668 EDDY STREET, PROVIDENCE, R. I.

FIRE, LIGHTNING, WINDSTORM.

The HOME INSURANCE COMPANY NEW YORK

Organized 1853. MAIN OFFICES, 56 CEDAR ST.

Cash Capital, $3,000,000.

ASSETS January 1st, 1908	$20,862,698
LIABILITIES (Including Capital)	13,659,487
RESERVE AS A CONFLAGRATION SURPLUS	500.000
NET SURPLUS OVER ALL LIABILITIES AND RESERVES	6,703.211
Surplus as Regards Policy-holders	10,203,211
Losses Paid Since Organization Over	110,000,000

Note amount of surplus after providing for San Francisco and other conflagrations.

HOME Policyholders everywhere have protection, which is sure, notwithstanding conflagrations anywhere.

IS prepared to entertain liberal lines on Sprinkler-Equipped and Modern Improved risks generally, having a special department for the consideration of such business.

ELBRIDGE G. SNOW, President.

EMANNEL H. A. CORREA, Vice-Pres. AREUNAH M. BURTIS, Secretary.
FREDERICK C. BUSWELL, Vice-Pres. CHARLES L. TYNER, Secretary.
CLARENCE A. LUDLUM, Asst. Sec'y. HENRY J. FERRIS, Asst. Secretary.

FACTS AND GOSSIP.

*New York, Troy. The Troy Bleaching Co. reported incorporated several weeks ago under the laws of Maine with capital stock of $300,000 has elected the following officers: George Bothamley, president and general manager; Norman Loomis, treasurer, and John Vansant, vice-president. Mr. Vansant is treasurer and superintendent of the Brookdale Bleachery, Hohokus, N. J., and Mr. Bothamley was associated with him at the latter plant. It is proposed to equip a plant at Troy, N Y., for finishing white goods especially for the collar trade. Nothing has been done as yet toward erecting a plant and we are advised nothing will be done for some time.

*North Carolina, Burlington. Complete equipment has been set up in the Burlington Dye Works recently organized. The plant has a capacity of 150 dozen pairs of hose daily. B. L. Boland is superintendent and D. E. Sellers, president and treasurer of the Sellers Hosiery Mill, is secretary and treasurer.

Pennsylvania, New Cumberland. The Pennsylvania Dye & Bleach Works, who have been in business only a few years, have been wonderfully successful in their operations, and to accommodate their increased business they have erected additional buildings and have put up a new office building. They are dyers and bleachers of hosiery, underwear, yarns, etc.

FIRES.

Canada, Ontario, Alton. The Beaver Mills, Wm. Algie, proprietor, have sustained a severe loss by fire estimated at $20,000; insurance, $10,000. Men's, women's and children's underwear were manufactured on 2 sets of wool cards and 20 knitting machines. Mr. Algie advises that he has not decided whether he will rebuild.

Canada, Montreal. One of the buildings of the Montreal Cotton & Wool Waste Co., Ltd., has been destroyed by fire at a loss estimated at $40,000, partly insured.

New Jersey, Rosenhayn. Schiendelman's Knitting Mill, operated as a branch of his plant at 211 E. 4th St., New York City, has been destroyed by fire, the loss being estimated at $14,000. The plant was used for the manufacture of sweaters, etc.

North Carolina, Waynesville. It is reported that the Richland Woolen Mills have been practically destroyed by fire. This company manufactured jeans, blankets, lindseys and yarns for knitting on one set and 8 looms. E. W. Brown, proprietor, is quoted as saying that the plant would not be rebuilt at the present.

Pennsylvania, Philadelphia. Graham's tenement mill at 1729 Gillingham St., Frankford, occupied by several manufacturers of textile fabrics, was almost destroyed by fire, the estimated loss being $25,000. This is the second fire in this mill within the past year. The damage will be repaired at once.

The WM. H. LORIMER'S SONS CO.,

Manufacturers of

MERCERIZED YARNS

FOR ALL PURPOSES.

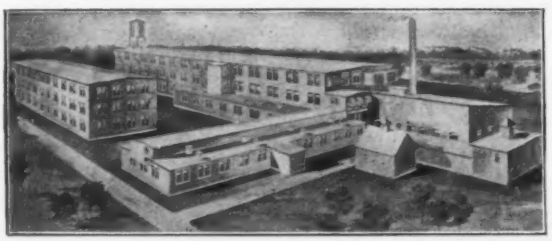
MERCERIZERS AND DYERS.

New York Office:
Room 911 New York Life Building,
346 Broadway.

Ontario and Lawrence Sts.,
PHILADELPHIA, PA.

PETER B. MCMANUS, Pres. and Treas. EDWARD J. MCCAUGHEY, Secy. and Mgr. JOHN MCMANUS, Vice-Pres.

HOME BLEACH AND DYE WORKS, Inc.



Dyers, Bleachers and Mercerizers of

Cotton Yarns

in skein, and long and short

CHAIN WARPS

Fast Colors a Specialty.

Daily Capacity 30,000 lbs.

Fast Colors and Black for Worsted Trade.

Office and Works, Pawtucket, R. I.

Established 1881.

GLOBE DYE WORKS CO.,

Successors to R. Greenwood & Bault

DYERS BLEACHERS AND **MERCERIZERS**

OF COTTON WARPS AND SKEIN YARNS

Globe Bleach and Dye Works,
Oxford and Worth Sts., Frankford, Pa.

140 Chestnut St., PHILADELPHIA.

YARNS BLEACHED AND DYED (delivered on cones)

BLEACHING and DYEING

ESPECIALLY FOR THE

KNIT GOODS TRADE

CONE WINDING FOR THE TRADE

Schuylkill Haven Bleach and Dye Works, SAMUEL ROWLAND, **Schuylkill Haven, Pa.**

N. B. Bleached Finishing Yarns on Cones for Underwear, always in Stock.

JOHN F. DAVIDSON, Orianna Bleach Works

BLEACHERS

Of Turkish Towels, Cotton Yarns, Underwear and Tapes

Turkish Towels Made Up to Suit the Trade and Shipped to Any Point

2558-2564 North 3d Street, 2557-2563 Orianna Street, PHILADELPHIA

Office, 2557 Orianna Street **Correspondence Solicited**

CUMINAT

The remarkable German finish for cotton, wool and worsted cloths

Is the Simplest and Cheapest means for giving Goods Fullness, Body and Weight.

is guaranteed harmless to fibre and color, does not coat the yarn, but closely unites with it, eliminates dusting off during the napping process. Does not change goods while in stock.

Write for price and particulars

The New Brunswick Chemical Co.

New Brunswick, N. J.

All business transactions treated confidentially.

FIRTH & FOSTER CO.

Dyers and Finishers

York, Emerald and Adams Sts., Philadelphia, Pa.

New York Office, Silk Exchange Bldg., Cor. Broadway and Broome Sts.

Dyeing and Finishing of Piece Goods Exclusively, such as Wool Armures, Prunellas, Satins and Henriettas. Panamas, Poplins, Serges and Cheviots. Mohairs, Bradford Finish, in Fancy and Solid Colorings. Also Suitings and Cloakings.
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SPECIAL ATTENTION IS GIVEN TO THE REDYEING OF ABOVE

UTICA WILLOWVALE BLEACHING CO.

Sheetings, Shirtings, Lawns, India Linons. Everything in White Goods.

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Pawtucket Dyeing and Bleaching Co. Bleachers and Dyers of COTTON YARNS and STOCKINET

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Cleans Wool, Floors, Anything.

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Dyers of Skein Silk
FOR ALL TEXTILE PURPOSES

Fast Colors on Silk for Worsted Manufacturers.
Pure Dye and Weighted. Bright and Souple.
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Dyers, Bleachers and Mercerizers

of Cotton Yarns in Long or Short Chain Warps and Skein in FAST COLORS, for all purposes.

Also Dyers of Genuine Turkey Reds.

We are Dyers of all kinds of YARNS AND Cotton Warps

We are sure we can give you better work and better service than you can get elsewhere. A trial will convince.

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DYE STICKS

Made from high and selected grades of lumber to suit all the different machines, such as Klauder-Weldon, Hussong, Lorimer, etc. Plain or burnt finish as desired. Sticks for all sizes of Hand Kettles from natural water grown cedar.

Dry, Sulphur and Bleach House Poles, Wringing Sticks, etc. from selected lumber or natural cedar

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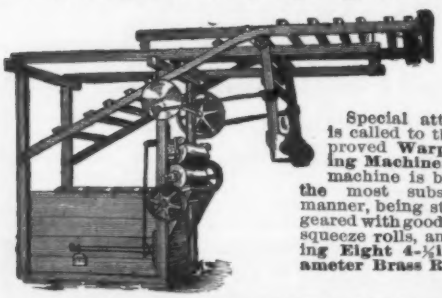

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Fast Colors for Wool and Cotton.
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} Direct Sulphur Colors, Faster than Indigo, to light and Washing.

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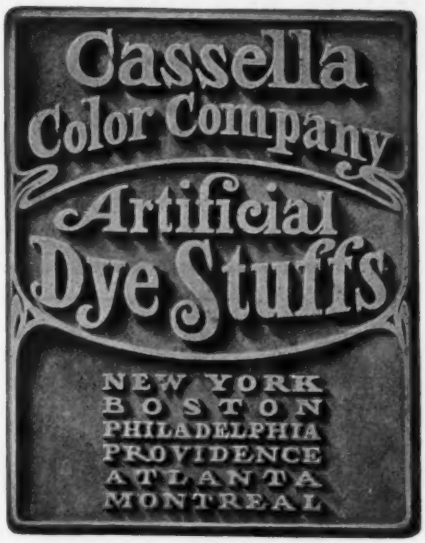

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animal + vegetable fibres or their mixtures is the best.

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that are built for long service

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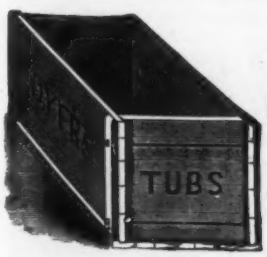

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Manufacturers of

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Tubs and Tanks of all kinds for Dyers, Bleachers, Factories, etc.

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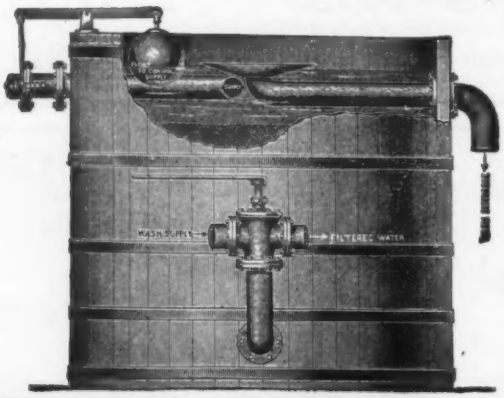

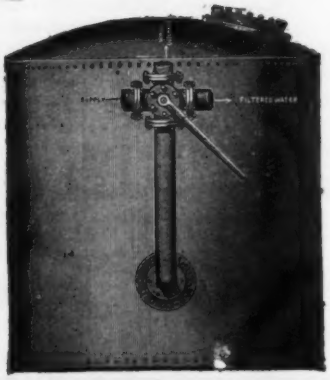

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Our filters are already in use in a number of the representative textile mills of the country, from whom we have received many expressions of satisfaction. Our representative will call and explain our system whenever desired.

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Hungerford Filters having a daily aggregate capacity of over thirty million gallons per day are now in operation in the textile mills of America.

Estimates and plans for proposed installations submitted without cost.

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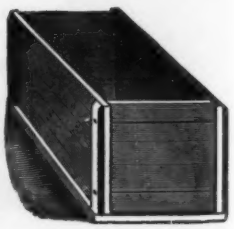
For Bleaching, Dyeing and Finishing.

Reservoir Tanks of any Capacity or Shape for Sprinkler Systems and all purposes.



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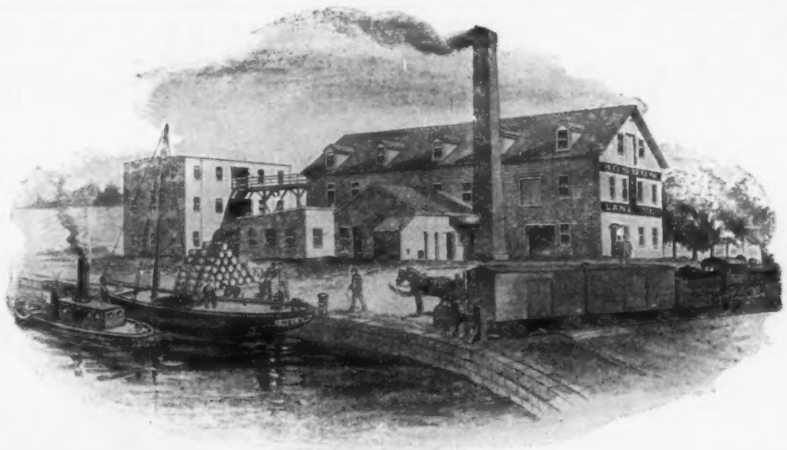

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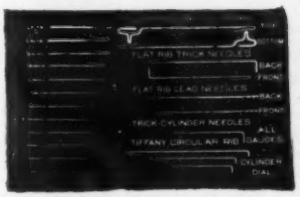

Flat and Circular Rib, both Spring and Latch Needle, Plain Circular Machines, Lead or Trick Cylinder, **Spring Needle Cylinder Rib-Top Machines** for making Cuffs, Drawer Bottoms and Shirt Borders. **Spring and Latch Knitting Needles, Burr Wheels, Burr Blades, Sinkers, Jacks, etc.**

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IF

you size or finish your goods,

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you strip your goods,

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can show

ADVANTAGES

from standpoint of economy as well as quality of fabric.

The American Diamalt Co.
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On and After January 1st, 1909

The "OVERLOCK" Machine will be SOLD as well as RENTED. Prices and terms on application. Machines will be supplied in the order of receipt of application.

EVERYWHERE This TRADEMARK is a Recognized Guarantee of Perfect Sewing Mechanism.

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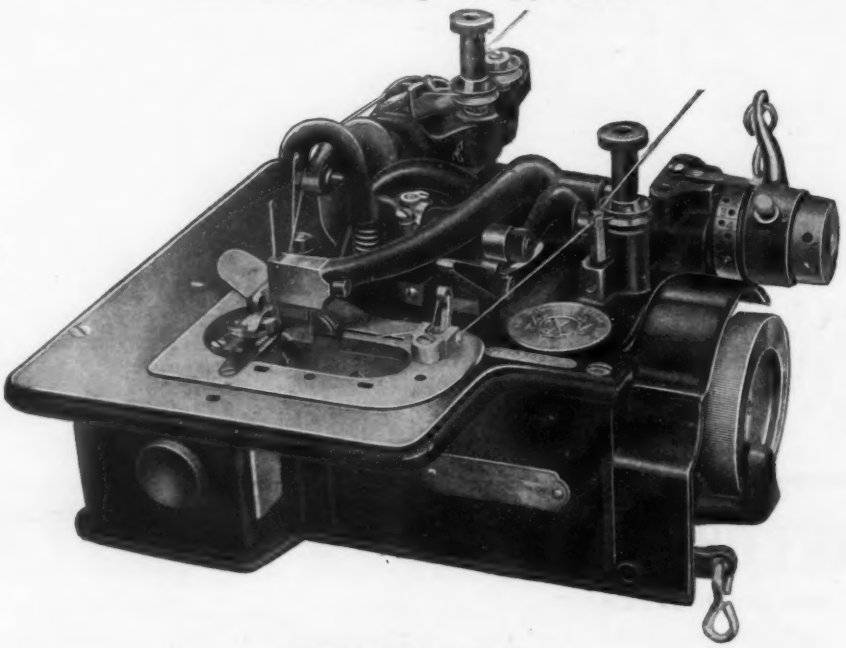

3000 Perfect Stitches Per Minute.

An Instrument of Precision — The "OVERLOCK" Machine
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For making a strong, elastic,. trimmed and covered Seam, Hem or Overedge in one operation on

Knit Goods

for instance, Ribbed, Flat and Fancy Underwear, Sweaters, Cardigans, Hose, Half Hose and Bathing Suits.

For making an Ornamental Overedge, plain or scalloped, or Artificial selvedge on

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Willcox & Gibbs Sewing Machine Co.

General Offices, 658 Broadway cor. Bond St.
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Full Fashioned Hosiery Machines

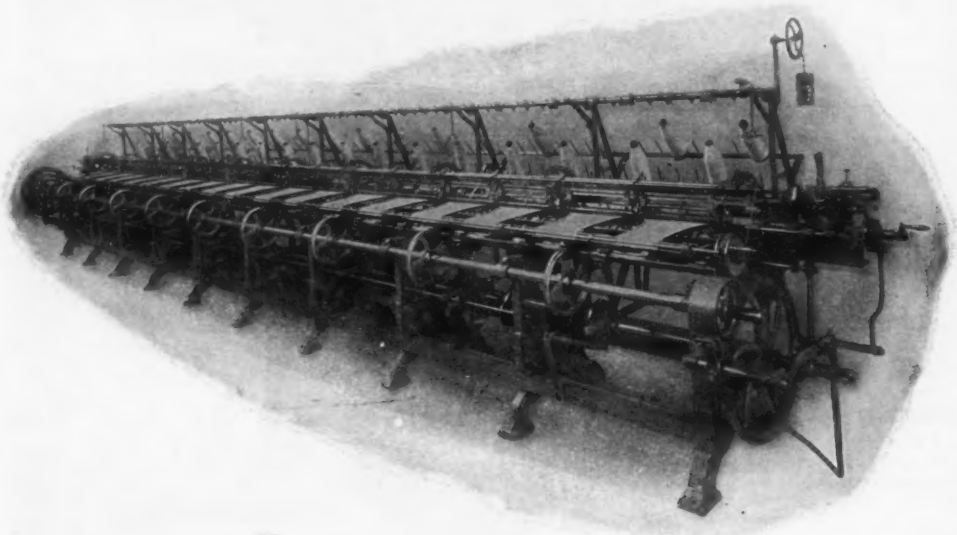
BUILT BY

SCHUBERT & SALZER

Largest Manufacturers of all classes of Hosiery Machines.

The plant, which is located in Chemnitz, Germany, declared by engineering experts and hosiery manufacturers to be the finest of its kind, is equipped with the most modern American and European machine tools, employing 1600 skilled workmen.

These machines have been proven the best constructed and most productive in the market for the manufacture of cotton, lisle and silk hosiery and since their introduction into this country 13 years ago have always been the leaders among a number of competitive makes, as upon trial they have fully borne out all that is claimed for them.



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All the leading manufacturers of full fashioned hosiery in this country. Largest individual order for 65 eighteen section machines placed recently by the new million dollar concern, the Brown-Moore Hosiery Co. of Philadelphia.

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Manufacturers of

Circular Rib Knitting Machinery

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AUTOMATIC AND PLAIN

For all classes of Ribbed Hosiery, Underwear, Combination Suits, Sweaters, Etc.

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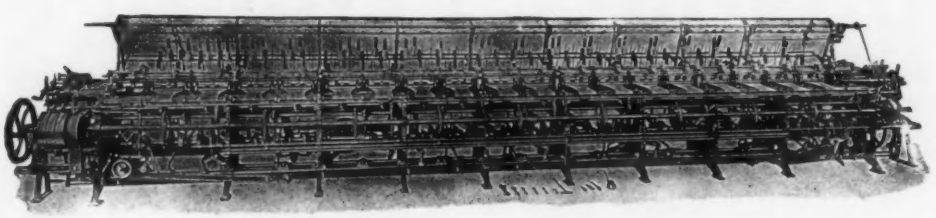
All Special Machines for Any Article That Is Knit

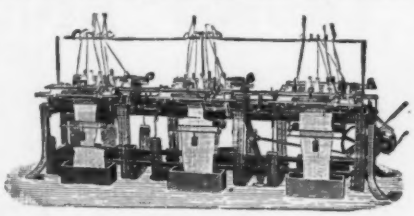
Full Fashioned Hosiery Machines

System **G. Hilscher, Chemnitz, Saxony**



18 Section "COTTON HILSCHER" Machine for Full Fashioned Hosiery, Silk, Cotton, Wool, etc.
Gold Medal, Paris, 1900 Numerous Patents Covering Special Improvements

GROSSER Flat Knitting Machines
For HAND Power or FULLY AUTOMATIC Power MACHINES. Most productive and best machines for Sweaters, Jackets, Blouses, Wool Hosiery, Gloves, Mittens, Sporting Goods in Plain, Fancy and Jacquard Work, Shaker Articles, etc. Large stock on hand. Power Machines to be seen in operation.



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C. Terrot Söhne, Cannstatt, Würt, famous builders of the best Circular Frame for Finest Underwear, Fleece Linings, Gloves, Special á-jour (openwork) Fabrics, etc.

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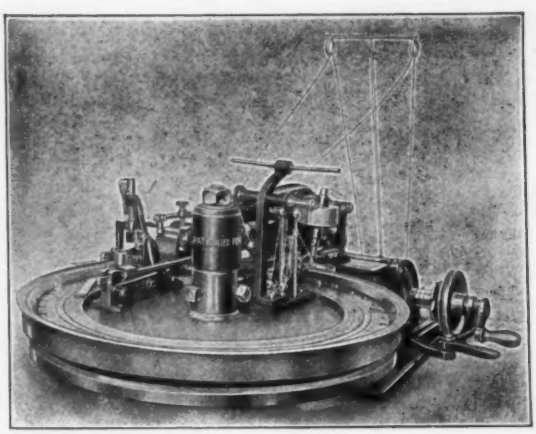
For Fancy Goods in largest variety, Shawls, Capes, Caps, Borders, Fringes, Lace Work, etc., in silk, wool cotton.



The LOOPER THAT LOOPS!
Two thread lock stitch machine with reliable trimmer and raveller producing *indistructible, flat elastic* seam.
No Hosiery or Underwear plant up to date without this machine.

DIAMOND OVERSEAMERS
for all classes of selvege goods, Full Fashioned Hosiery, Underwear, etc.

FINISHING MACHINES for Knit Goods of all styles.

WINDERS for finest yarns.

Information, Samples and Specifications at Your Disposition

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LEADING MANUFACTURERS

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LADIES' RIBBED UNDERWEAR

OUR MOTTO: Correct Goods
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Mills: Germantown, Philadelphia

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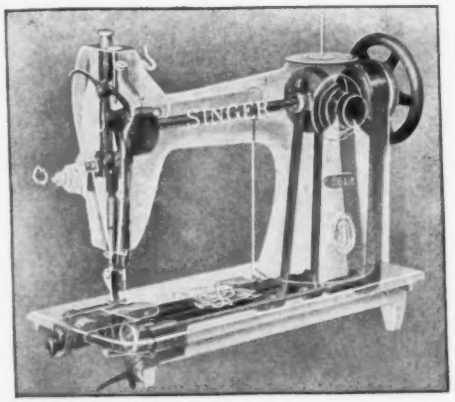
Money Savers for Knit Goods Manufacturers

SINGER MACHINE 88-1



for use on light or thin textile fabrics and is especially constructed for power operation at

Highest Speed Possible

with neither noise nor vibration.

THE ROTATING HOOK is driven by a broad belt which connects two pulleys on the arm and shuttle shafts; there are two rows of driving-pins in each of these pulleys that fit into the holes in the belt as shown in the transparent illustration of the machine.

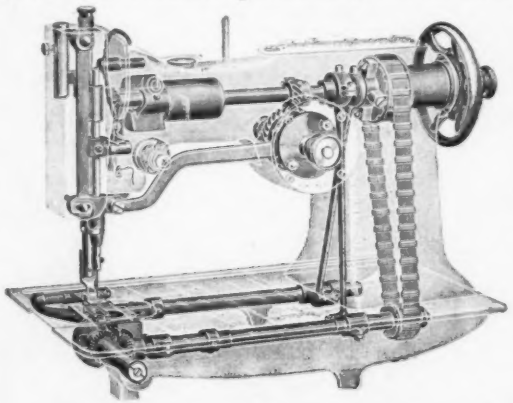
THE PERFORATED LEATHER CONNECTING BELT is unusually broad and has a large number of pin-holes set in two lines angular to each other to avoid possibility of pins missing the holes and to secure longer life to the belt.

THE BELT AND ITS PULLEYS are placed under a removable cover outside the end of the arm in which position it is most convenient if it becomes necessary to replace it; this cover forms a separate chamber for the belt and protects it from oil and dirt.

LIGHT TENSIONS: This machine makes a perfect stitch at the highest speed with very light tensions on both upper and under threads, therefore, a cheap quality of mercerized thread can be used successfully.

THE UPPER THREAD is perfectly controlled by the Singer Tension devices and the well known Noiseless Link Take Up; **the needle is very short and is, therefore, not liable to become heated by friction.**

THE UNDER THREAD bobbin is placed in a stationary bobbin case located centrally in a **rotating hook** which **makes but two revolutions** at each full stroke of the needle bar; the bobbin case is fastened permanently into the hook in which it has a broad full bearing that reduces wear to the minimum.



THE HOOK MAKES ONLY TWO REVOLUTIONS to one of the arm shaft, so that there is much less wear and consequent longer life than any other lockstitch machine approaching the speed of this one.

Singer Machine No. 107-W-1 for Overseaming or Zigzag Stitching can be operated at a speed of 2500 stitches per minute.

It is especially adapted for sewing the reinforcement of men's knit drawers and similar operations where a locked, zigzag stitch is essential.

Send for samples of work to

Singer Sewing Machine Company

At Singer Stores in Any City.

Indispensable to the Trade

1908-9 Edition

Official American Textile Directory

Compiled by the Textile World Record

What the Directory Contains

Over 13,000 Different Concerns Listed

A Complete Directory of Mills including Cotton, Woolen, Knitting, Silk, Flax and Jute Mills of the United States, Canada and Mexico together with the Dyeing and Finishing Works, Bleacheries, Print Works and other Textile Establishments, about 7000 in all.

Full information is given about each mill in almost every instance, viz: the name of the company or firm, names of officers, agent, superintendent, the character of goods made, machinery equipment, i.e., the number of sets of cards (or combs), the number of spindles, number of looms; whether the mill uses steam or water power, whether there is a dyehouse or not, the names of the selling agents or if the mill sells direct, and in many instances the name of the man is given who buys the raw material and supplies. In this section of the Directory, all the mills in one place are arranged under the head of that town, but so designated by boldface letters, that the kind of mill is determined at a glance, so that a person, looking, for instance, only for woolen mills, can pick them out instantly. This system of arrangement is conceded to be the most convenient of any as it groups all the mills in one town together and is self-indexing, while at the same time those interested in a particular class of mills, such as cotton, silk or knit, can find them as easily as if they were classified separately.

The Map Feature was originated by the Textile World in 1894, and is copyrighted. There are 19 of these textile maps, which show only the cities and towns where there are textile establishments. 19 maps.

An Alphabetical Index to the textile establishments in the United States; about 7000.

Mills with Worsted Machinery. A separate list is compiled of mills with worsted machinery for the convenience of those dealing exclusively with that branch.

The Yarn Trade Index. In this department are classified lists of manufacturers of different kinds of yarn who spin for the market. It gives the size of yarn spun and the form in which the yarn is put up, together with the selling agents of the mills, or, if sell direct. About 900 names.

Classified List of Manufacturers. This is a new section in which all the manufacturers of textile fabrics are listed under suitable headings showing the classes of goods made.

The Textile Mills in Mexico. This feature of the American Textile Directory is continued and brought up to date by the latest information. About 300 mills.

Commission and Order Section. In this department are classified lists of establishments doing dyeing bleaching, printing, finishing and mercerizing on order, sub-divided according to the class of work done. About 500 names.

Raw Material Section. In this department are complete lists of dealers and brokers in wool, cotton, shoddy and extracts, and wholesale rag dealers. About 2200 names.

Selling Agents and Dry Goods Commission Houses in the principal cities of the Unifed States, giving the character of goods handled. About 2300 names.

Textile Associations. Owing to the growing number of inquiries for information of the various associations a list of all the textile associations in the United States and Canada has been included in this year's Directory. The names of assaociations, officers and addresses are given.

Machinery and Supply Section. This contains a carefully classified index of builders of textile machinery and dealers in mill supplies. About 800 names and 500 headings.

Lord & Nagle Company

Textile Publishers, 144 Congress St., Boston

NEW YORK PHILADELPHIA CHICAGO

Higher Speed

To Reduce Cost of Production by Increasing Output of Operators

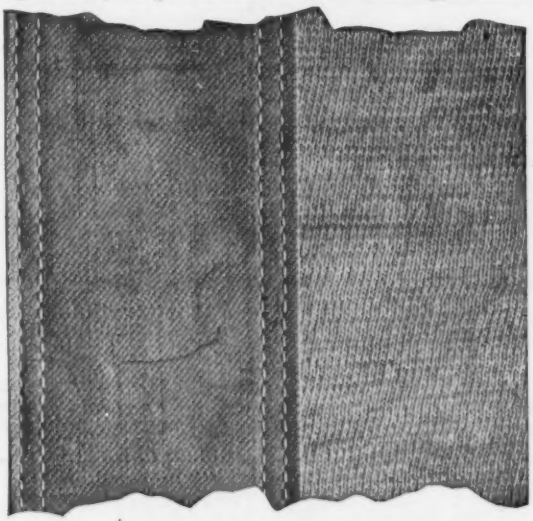
Higher Efficiency

USE

Multiple Needle Machines

For all Multiple Needle Operations, whether for Ornament or for Service, where it is desired to have a plurality of parallel rows of stitching, needles spaced as desired

Yielding Bottom Presser Foot to be used where different thicknesses of Fabric are being Stitched Simultaneously



Special Fittings and Attachments now ready for Numerous Manifold Operations

Greater Simplicity

Style 16100 A-4 Needles-8-80-8 Gauge
Stitching Front Facings to Shirts
One Operation

Greater Durability

Union Special Machine Company

BRANCHES
96 South St., Boston, Mass.
50 E. Main St., Amsterdam, N. Y.
51 Mohawk St., Cohoes, N. Y.
776 St. Catherine St., W., Montreal, Can.

HOME OFFICE AND WORKS
75 E. Kinzie St., Chicago, Ill.

GENERAL EASTERN OFFICE
47 Leonard St., New York City

BRANCHES
731 Arch St., Philadelphia, Pa.
806 Main St., Cincinnati, Ohio
1507 Olive St., St. Louis, Mo.
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Drying Forms.

BOARDS FOR FAST BLACK DYERS.

HOSIERY FINISHING BOARDS.

BEST WORK. PROMPT SERVICE. PRICES ALWAYS RIGHT.

JOS T. PEARSON 1815-21 TAYLOR ST. KENSINGTON PHILA

Hosiery Boards.

JAMES TAYLOR,

121 Arch Street, Philadelphia, Pa.

ALL KINDS OF NEW AND SECOND HAND

KNITTING MACHINERY

A RARE OPPORTUNITY TO BUY.

STANDARD "B" HOSIERY MACHINES.

30	machs.	3¾	in. diam.	200	needles
10	"	4	" "	188	"
12	"	3¾	" "	188	"
5	"	3¾	" "	192	"
4	"	3¾	" "	176	"
4	"	3¾	" "	172	"

All the above suitable for ladies' hosiery or men's half hose.

4	machs.	2¼	in. diam.	130	needles
2	"	2¼	" "	124	"
1	"	2½	" "	100	"
2	"	2¾	" "	112	"
1	"	3	" "	124	"
2	"	3	" "	130	"
2	"	3	" "	144	"
2	"	3¼	" "	136	"
1	"	3¼	" "	124	"
3	"	3½	" "	148	"

2	machs.	2¾	in. diam.	88	needles
5	"	3	" "	96	"
8	"	3¼	" "	104	"
12	"	3½	" "	112	"
9	"	3¾	" "	120	"

2	machs.	2¼	in. diam.	110	needles
2	"	2½	" "	120	"
3	"	2¾	" "	130	"
2	"	3	" "	140	"
3	"	3¼	" "	150	"
1	"	3¼	" "	156	"

3	machs.	2¼	in. diam.	110	needles
2	"	2½	" "	120	"
1	"	2¾	" "	130	"
1	"	2¾	" "	132	"
2	"	3	" "	140	"
3	"	3¼	" "	150	"
1	"	3¼	" "	156	"

WRITE FOR COMPLETE LIST. APPRAISEMENTS A SPECIALTY.

We are always in the market to buy good second-hand Knitting and Finishing Machinery.

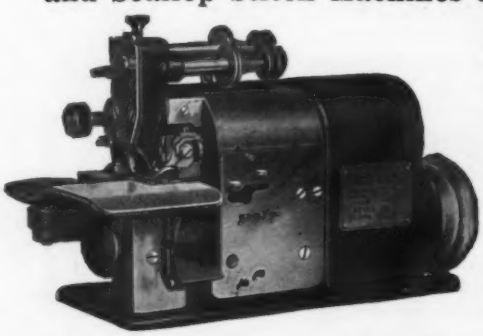
The Merrow

FAST

DURABLE

Light Running

High Speed Overseaming, Overedging and Scallop Stitch Machines are



OUR NEW STYLE 60 MACHINE for Trimming and Overseaming in one Operation produces the strongest, best Seam and does it with the greatest economy.

USE STYLE 18 for Horse Blankets.
STYLE 17 or 22 for Bed Blankets.
STYLE 35 B SHELL, for Necks and Fronts of Rib Goods, produces the most showy, substantial finish.

Send for Catalogue and Samples.

THE MERROW MACHINE CO. HARTFORD, CONN.

Knickerbocker Building, Sixth and Arch Sts., Phila. Room 321, 467 Broadway, New York

EXCELSIOR KNITTING MACHINE MFG. CO.

Meadow and Washington Streets

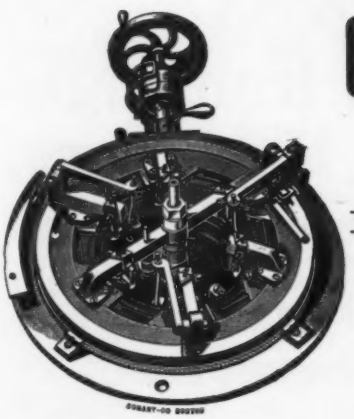
ALLENTOWN, PENNA.

BUILDERS OF

Full Automatic Knitters

With or without **Transferring Device**

ALL SIZES AND GAUGES, 2 1-4 INCH TO 4 INCH

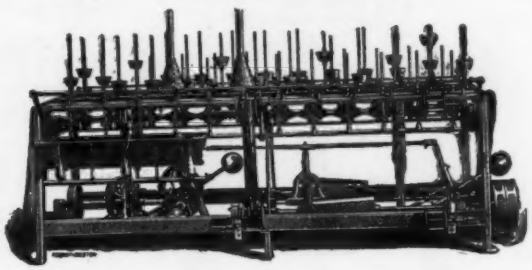


CIRCULAR KNITTING MACHINES

Either plain or full automatic, with stop motions complete. 4 to 24 feeds for

RIBBED UNDERWEAR

Automatic Racking and Striping Machines for Sweaters, Cardigans, Collarettes, Cuffs and Anklets.



ALSO BUILDERS OF THE WELL-KNOWN

ABEL WINDERS, SEAMERS and LOOPERS.

LEIGHTON MACHINE CO., - Manchester, N. H.

The Invincible

Full Automatic.

"The KNITTER that KNITS"

THE LARGEST PRODUCER OF PERFECT WORK.
SIMPLE, POSITIVE AND EASY TO OPERATE.

E. JENCKES MFG. CO.

Pawtucket, R. I.

PHILADELPHIA OFFICE,
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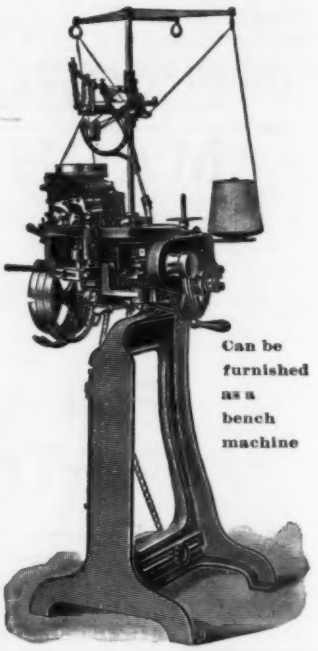
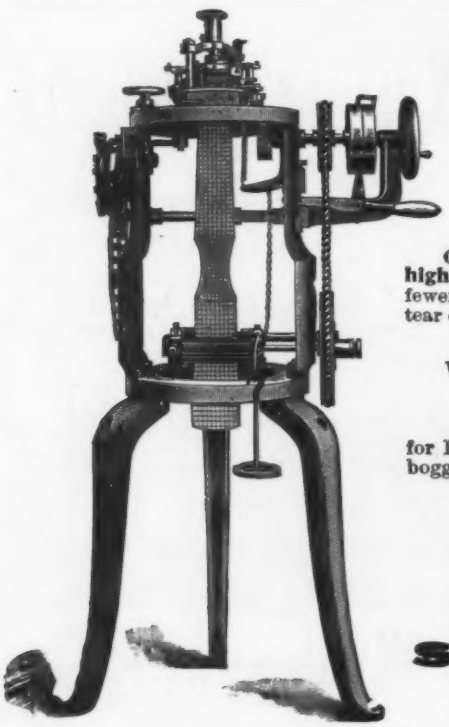


Can be furnished as a bench machine



High Speed Rib Knitting Machinery.

Our latest model machinery has been designed to run at very high speed, giving large production. This is accomplished with fewer seconds, less breakage of needles, less jar and wear and tear on machines than has been customary at lower speeds.

We also make Special

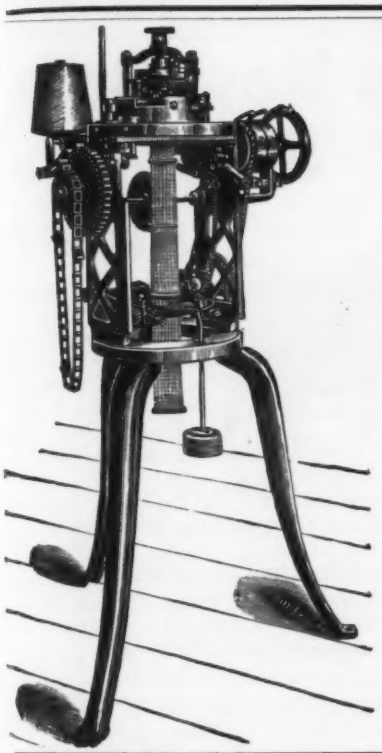
STRIPING AND DESIGNING MACHINES

for Fancy Golf Stockings, Bathing Suits, Sweaters, Toques, Toboggan Caps, Skirts, etc.

Our Machinery gives large production at low cost and enables manufacturers to meet the market always and make a profit.

STAFFORD & HOLT,

LITTLE FALLS, N. Y.



H. Brinton & Co.

213-215 Race Street, Philadelphia, Pa.

BUILDERS OF

Knitting Machinery

For HOSIERY and UNDERWEAR.

Complete Estimates Furnished. ***Send for Particulars.***

The cut shows our **Improved Automatic Ribber with Welt and Slack Course** for Half Hose, Tops and Ribbed Legs.

For Half Hose Tops Only

AUTOMATIC POWER TOP CUTTING MACHINES

Will cut, automatically, 1000 dozen half hose tops, or cut, and automatically pile in heaps of one dozen each, from 400 to 700 dozen misses tops, according to length, per day.

ROBINHOLD MACHINE CO.
650 North 8th St., Reading, Pa.

For Half Hose, Misses and Childrens Tops

WILLIAM C. BULL, BENNINGTON, VERMONT.

For Ladies', Gents' and Children's Goods.
Latest Styles.
Best Workmanship.

MAKER OF

Drying Form Boards

OF EVERY VARIETY.

Oils

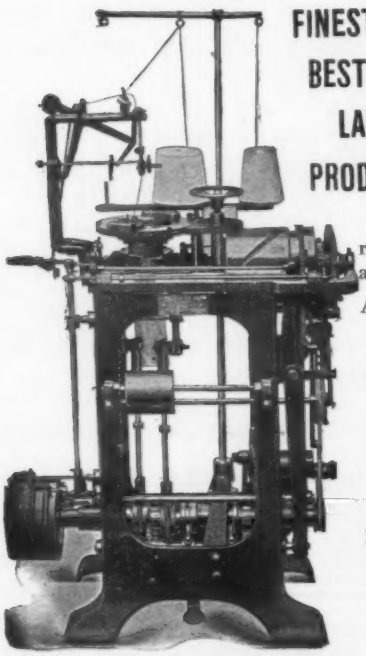
E. W. Murphey & Co.
HUDSON, N. Y.
Established 1831.

Sewing Machine Belting, Press Boards, Belt Hooks, Lace Leather, Leather Belting, Latch Needles, Oilers of every description, Mill Baskets and Brooms, Mill Banding, Rings and Springs, Packings of all kinds, Fire Pails, Shears and Trimmers, Cloth Knives, Etc.

and Mill Supplies

"NATIONAL"

Stands for



FINEST GAUGES
BEST FABRIC
LARGEST
PRODUCT ON

Greatest Variety of Laces and Novelties.

Allautomatic.

Lowest Cost for Operating

Also

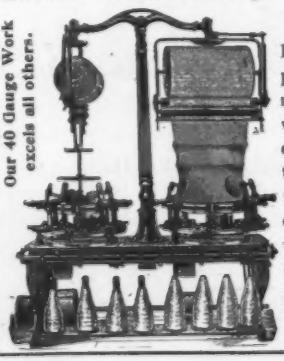
Rib Knitting Machinery, Overedge, Crochet and Shell Stitch.

NATIONAL AUTOMATIC KNITTER CO.

728 Cherry Street, PHILADELPHIA, PA.

We are the Oldest Manufacturers

of this Design of Spring Needle Knitting Machine in this Country



Our 40 Gauge Work excels all others.

40 years' experience

Do not be misled by people who became manufacturers in 1903 without any previous experience who are trying to represent that they are the oldest manufacturers. Investigate. Call and see our fine gauge work.

Robt. W. Gormly & Co.
Troy, N. Y.

The New Boss Seamless Knitter

Do you want the biggest production with the least menders, for the least money? If so, write to the Boss Knitting Machine Works for their circular with full directions. There is no cylinder to be handled. We use only one cylinder and transfer device for half hose or ladies' hose. This machine beats them all. Has no equal for simplicity and durability. Makes 300 revolutions per minute. Built in sizes from 2¼ to 5½; from 40 to 224 needles. Automatic in heel and toe. It is the strongest built knitter on earth.

Send for prices and particulars.

THE BOSS KNITTING MACHINE WORKS,
Cor. Elm and Reed Sts., Reading, Pa.

"Acme" and "Hemphill"

SEAMLESS HOSIERY

Knitting Machines

built by

Mayo Knitting Machine & Needle Company

Franklin, N. H.

Answer all purposes in the *most reliable*, *up-to-date*, and *economical* manner. Write us for full particulars.

Manufacturers like our Latch Needles

because we make a superior grade of needles.

Philadelphia Office, Knickerbocker Bldg.

STANDARD MACHINES FOR HOSIERY MAKING

The STANDARD F, with attachments, can make any and all of these fabrics:

Plain Goods
Plaited Work
Three Color Stripes
Tipped Heel and Toe
White Foot
Changed Heel and Toe
Garter Top
Loopers Slack Course

Most Stockings—Best Fabrics—Longest Life

Standard Machine Company

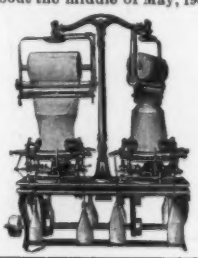
OFFICE AND SHOW ROOMS

330-340 North 12th St., Philadelphia

We Are the Oldest Manufacturers
IN THE WESTERN HEMISPHERE
Of Circular Spring Needle Loop-Wheel Knitting Machinery.

TOMPKINS BROS. CO., Troy, N.Y.

We submit the following extract from the sworn testimony of R. W. Gormly, in U. S. Circuit Court, Northern District of New York, in equity, No. 6764:
Cross Question 123. How long have you been a manufacturer of knitting machines? Answer. I started in this business about the middle of May, 1900.



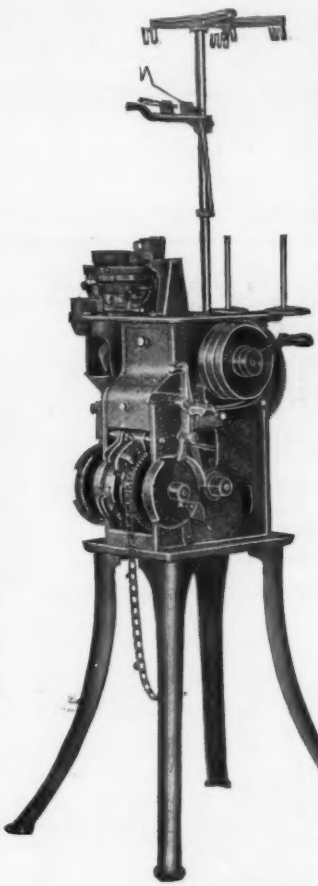
Tompkins Knitter

This design was adopted in 1875.
BUSINESS ESTABLISHED in 1846, before ROBERT W. GORMLY Was born, according to his testimony in the case above cited.

"THE BANNER"
Hemphill's Latest

A FULL AUTOMATIC MACHINE

Specially adapted to



Plaited Goods
and
String Work
also
High Splice
and
Double Sole

Largest Production
More Yarn Changes
Highest Speed
Simplest
Least Repairs

Produces a Superior Quality of Work.

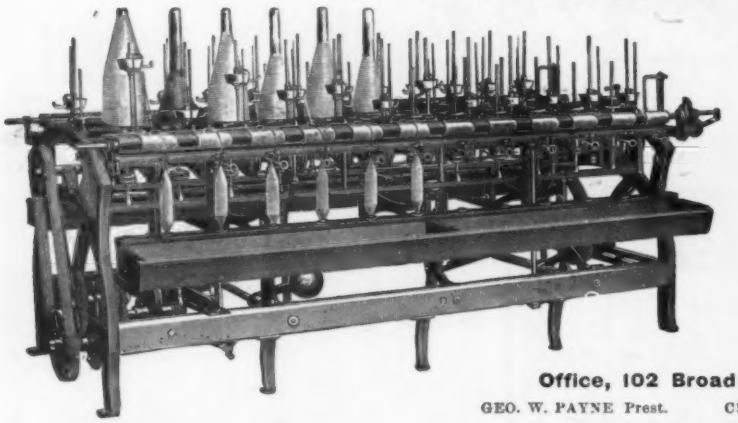
MANUFACTURED BY THE

Hemphill Mfg. Co.

131 Clay Street, PAWTUCKET, R. I.

OVER 1,900 PAYNE WINDERS IN USE

By Hosiery Manufacturers,
Wind for Cop, Skein or Bobbin.



Improved

Upright Spoolers,

To Spool from Cop, Skein or Bobbin.

Doubling Spoolers for doubling 2, 3, or more ends into one.

Upright Quillers, Quill from Cop, Skein or Bobbin.

Ring Dresser, Spooler and Reel Spindles, Cop Skewers, Warp, Spool, Spooler, Guides, Bolsters and Stops Made and Repaired at Short Notice.

GEO. W. PAYNE CO.,

[Est. 1865. Inc. 1903.]

Office, 102 Broad Street, Pawtucket, R. I.

GEO. W. PAYNE Prest. CLINTON F. PAYNE, Sec'y. and Treas.

HEPWORTH & CO.'S

Patent Single-Stitch

LOOPING MACHINE.

Needle working from the inside, avoiding the breaking of needles and points and picking up the metal.

Single and Double Stitch, or Both Combined.

JOHN W. HEPWORTH & CO.,
N. W. Cor. Lehigh Ave. and Mascher Street,
PHILADELPHIA.

Edouard Dubied & Co.,

Couvet, Switzerland,

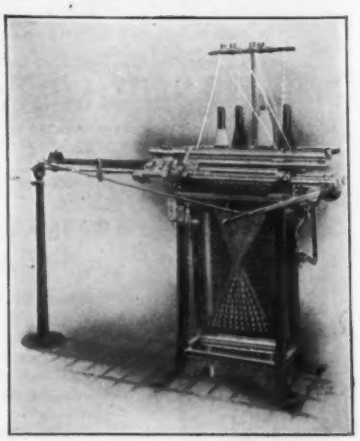
Knitting Machines,

Hand and Power.

HIGH CLASS WORK ONLY.

Paris 1900 "Grand Prix"
Milan 1906 "Grand Prix"

For catalogues and particulars apply direct to Couvet Works.



PAXTON & O'NEILL'S

Full Automatic Knitter

FOR ALL KINDS AND GAUGES OF SEAMLESS HOSIERY.
RANGE ON HALF HOSE AND LADIES FROM 260 NEEDLES DOWN.

3-4 AUTOMATIC KNITTER

With Lace Effects.

Exclusive rights to BROWN'S LACE ATTACHMENT.

537-39-41 North 3d St., - - - - - PHILADELPHIA.

Patent Loopers

Single, double and two thread Stitch.

with the Patent Raised or Straight Points.

Beattie Manufacturing Co.,
Cohoes, N. Y.

Knit Glove Manufacturers Attention

If you want to be up-to-date ask us for particulars about our new

Seamless Fingering Machine

Indorsed by leading manufacturers

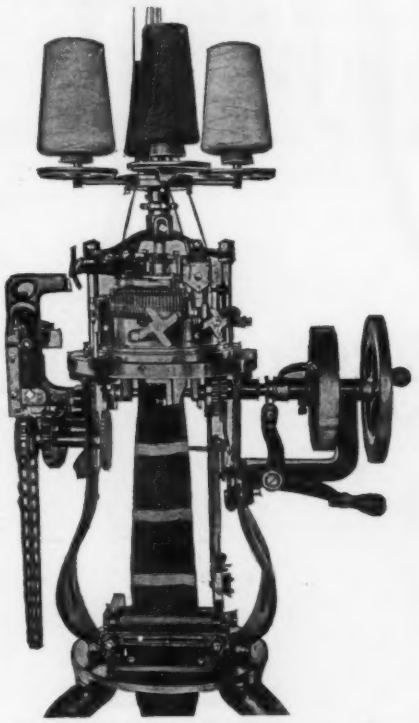
James Leckie & Son
821 No. 13th St., Phila., Pa.

Established 1870. — Incorporated 1890.

CRANE M'F'G. CO.,
LAKEPORT, N. H.

Manufacturers of

Spring and Latch Needle Machines for both rib and plain work, producing a great variety of fabrics. Patent removable hardened Wing Burr Wheels.



Improved Automatic Toque Machine.

NYE & TREDICK CO.

718-720 Cherry Street,
PHILADELPHIA, PA.

Circular Rib Knitting MACHINERY

For making Ribbed Underwear, Combination Suits, Sweaters, Cuffs, Shirt Borders, Hosiery, etc. Correct Construction, Excellence and Durability.

LATEST IMPROVEMENTS
QUALITY OF FABRICS AND PRODUCTION
UNEXCELLED

NYE & TREDICK CO.

If You Want

Largest Production For Least Money

Write

Geo. D. Mayo Machine Co.,

Laconia, N. H.

Latest
Simplest
Best

MAYO'S

New Full Automatic Knitter

PHILADELPHIA OFFICE,
KNICKERBOCKER BLDG., COR. SIXTH AND ARCH STS.,
B. M. DENNEY, REPRESENTATIVE.

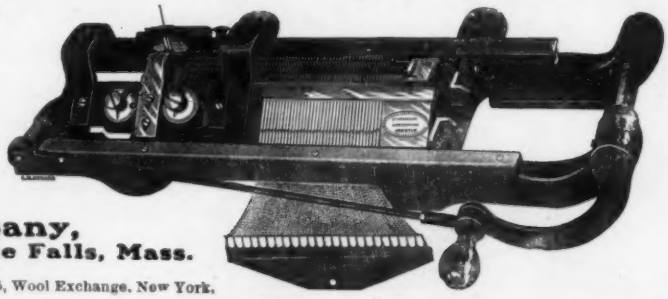
The LAMB

LEADER OF KNITTERS

Original and Still the Best.

Most widely used; being operated in every civilized country in the world. For description, prices, etc., see catalogue.

Circular Machines, Rib Top and Seaming Machines.



Lamb Knitting Machine Company,

P. O. Box, 5888, **Chicopee Falls, Mass.**

J. E. WOODHEAD, 100 22d St., Chicago.
L. D. SANBORN, Room 505, Wool Exchange, New York.

David Richter, Inc.

were the first machine builders in Chemnitz, Germany, to construct

Full Fashioned Hosiery Machines

upon the Cotton principle and which since their introduction have never been excelled by any other machine builder; be it in construction or productiveness. Built in all gauges and for any material, cotton, wool, lisle or silk.

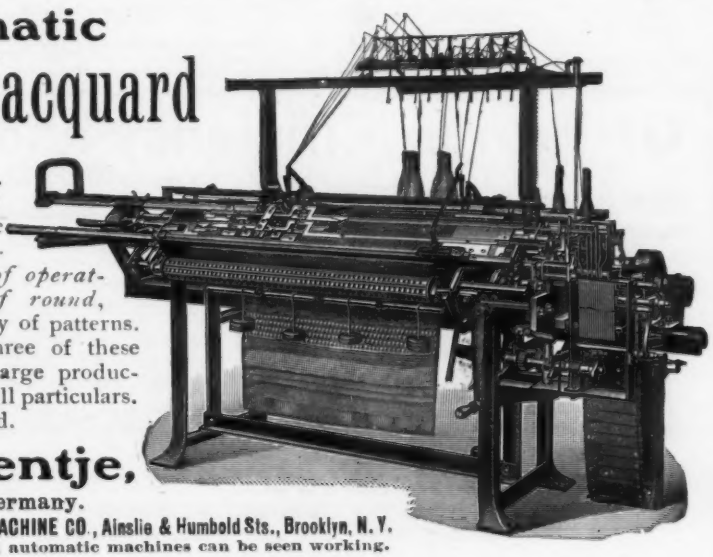
Sole American Representative,

Hugo Huettig, 581 Bourse, Philadelphia

Full Automatic
Noppen & Jacquard

for high-grade sweaters, jerseys, etc. Latest improvements

Recognized as the best in the market. With Jacquard attachment allowing *change of operating mechanism every half round*, therefore unrivaled in variety of patterns. One operator attends to three of these machines. High speed. Large production. Ask for samples and full particulars. State gauge and size you need.



Claes & Flentje,

Mühlhausen Thr., Germany.

Representatives, **AINSLIE KNITTING MACHINE CO.**, Ainslie & Humbold Sts., Brooklyn, N. Y.

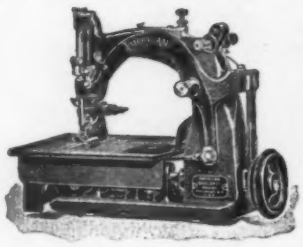
Where all kinds of our hand and automatic machines can be seen working.

American Raveller Company

PHILMONT, N. Y.

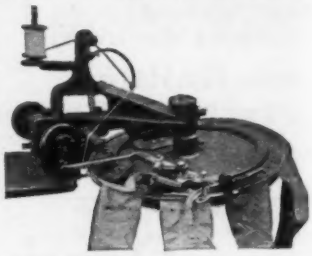
MANUFACTURERS AND PATENTEES OF

High Speed, Elastic Stitch Sewing and Trimming Machines



Also ravelling machines for making knit underwear and hosiery full fashioned.

2 line and twin needle machines for fancy stitching.



Automatic Machine Works

GEO. W. STEVENSON, Inventor and Proprietor — **315-315½ Elm Street, Reading, Pa.**

Builders of

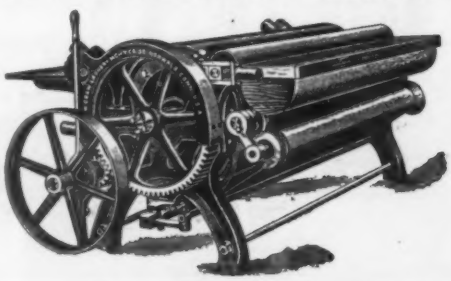
Automatic Singeing Machine and The Cold Hosiery Press.

The Automatic Singeing Machine is the only machine on the market equipped with a **Patent Single Plate Positive Stripping Device,** which saves gas, hose and labor. Built in two sizes double and single feed.

The Cold Hosiery Press is very simple to operate, is less expensive, no complicated parts and requires very little power. With this press the life of the yarn is retained and the finish of the hosiery after coming out of the press cannot be equalled by any other press hot or cold. The press is built in two sizes.

For further information address as above

Of Proven Efficiency and Economy



AUTOMATIC IRONING AND PRESSING MACHINES FOR KNIT GOODS

No Broken Buttons

This machine irons and presses ribbed and flat underwear and other knit goods, giving a fine, smooth, attractive finish, which cannot be as easily obtained in any other way. It does not break buttons and can be adjusted to all grades. It is so easy to operate, so inexpensive to maintain and is of such large capacity that knitting mills throughout the country effect fully 50 per cent. saving through its use. For particulars, prices and list of knitting mills using our machinery address us at our factory.

Saves Half Your expense

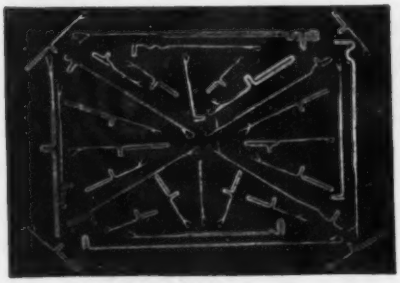
The Consolidated H. S. & L. M. Company

Saugatuck, Conn.

Sole Manufacturers of the "Craw" Automatic Ironing and Pressing Machine

TRY OUR "SUPERIOR" OR SUNKEN RIVET-HEAD NEEDLES

They will save you money.



Dodge Needle Co., Manchester, N. H.

WM. COREY CO,

Manufacturers of Knitting Machine

Latch Needles

MANCHESTER, N. H.

EXCELSIOR NEEDLES.

The best Hosiery Needles in the market.

Manufactured by

WARDWELL NEEDLE CO., Lakeport, N. H.

WM. BREEDON'S SON,

MANUFACTURERS OF

Spring Knitting Needles

AND BURR BLADES OF ALL KINDS.

AMSTERDAM, - N. Y.

KEYSTONE LATCH NEEDLE CO.

JOHN C. EGLY, MGR.

MANUFACTURERS OF

Patent and Regular Latch Needles

Needles for all makes of Knitters and Ribbers.
Keystone Spring Bottom Needles for all makes of Knitting Machines always in stock for immediate delivery.
Special Needles made to order.

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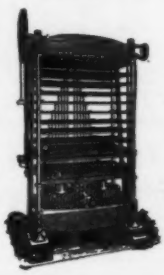

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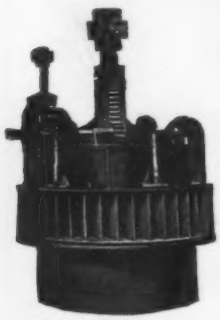

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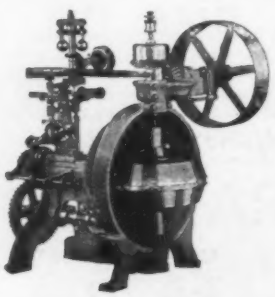

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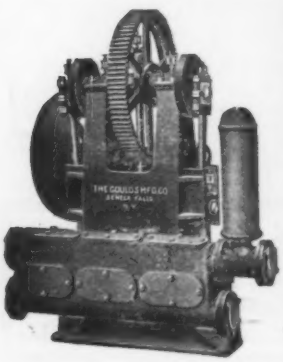

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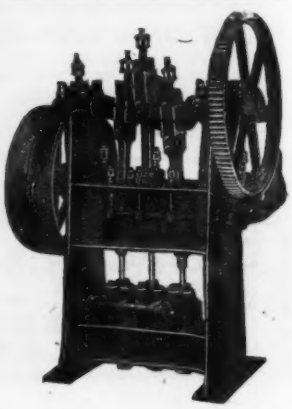

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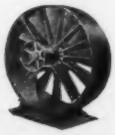

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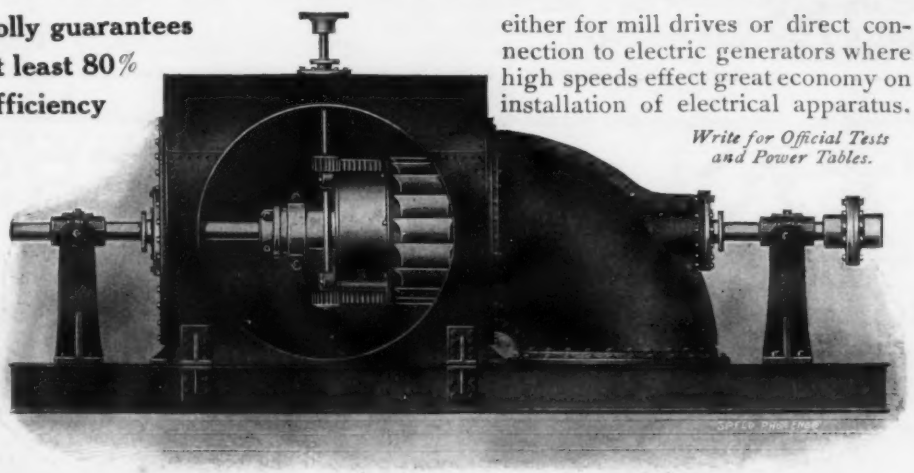

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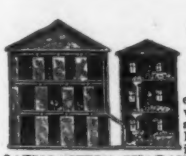

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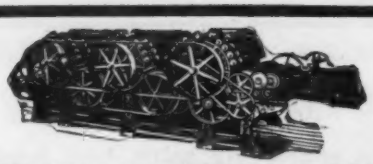

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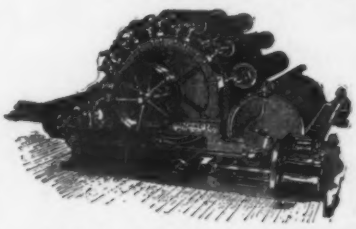

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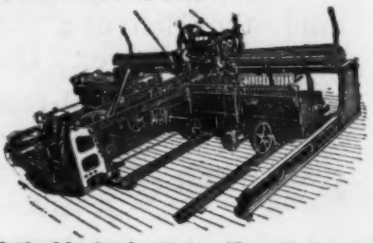

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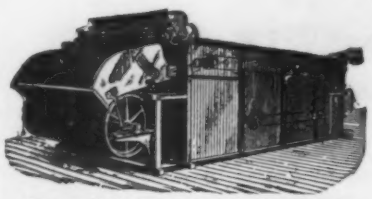

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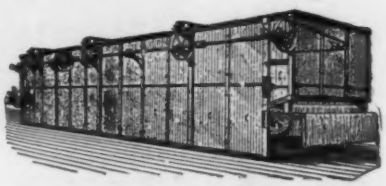

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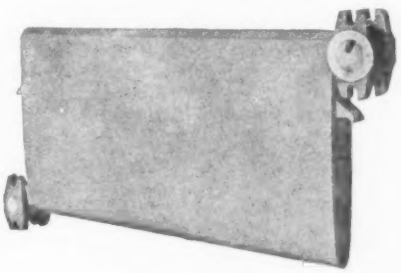

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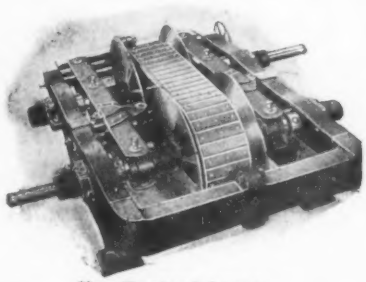

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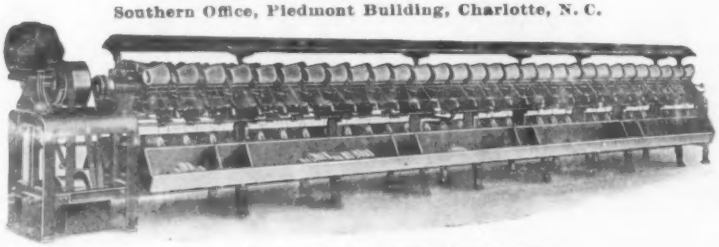

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